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An Address.[1]

"MEMINI PRÆTERITORUM, FUTURA PRÆUIDEO."

By K. B. FRASER,
Brisbane.

Those who read this will mostly be younger than I, men of the generation that must bear the active part in the work ahead. Let them learn from our adventures what they can. Let them charge us with our failures and do better in their turn. But let them not turn aside from what they have to do nor think that criticism excuses inaction. Let them have hope and virtue and let them believe in mankind and its future, for there is good as well as evil, and the man who tries to work for the good, believing in its eventual victory, while he may suffer setback and even disaster, will never know defeat.

—HENRY L. STIMSON, 1947.

I AM fully conscious of the honour you have done me in electing me your president for the ensuing year, and I thank you most sincerely.

As this is a jubilee year, commemorating the fiftieth anniversary of the Commonwealth of Australia, it seems to me that now is an appropriate time to glance back at the last fifty years in Queensland, to sum up the present and to peer into the future.

On an occasion such as this, one can do no more than sketch some of the highlights of an era in which medical progress has been truly astounding. I hope you will excuse me, therefore, if what I have to say seems somewhat disconnected and tinged with personal expressions of opinion.

History is, in the main, evolutionary; changes come gradually and imperceptibly and are realized only when thrown into stark relief by comparisons.

At the turn of the century Queensland's population was just under half a million people, of whom 119,000 lived in Brisbane. Now, fifty years later, the population of the State is 1,200,000 and that of the capital 450,000. It is rather alarming to see that the population of Brisbane has increased almost four times, while the population of the whole State has only slightly more than doubled. The number of registered medical practitioners has increased from 226 in 1901 to over 1050 in 1951.

In 1901 Brisbane was still a very scattered city with many open spaces, but some pretentious buildings had already made their appearance, and it was already very different from the straggling township of 1860. A horse tram still travelled down Edward Street to the Gardens, but a number of electric trams of the old "box" type were even then moving up and down Queen Street; horse buses linked up with the limited arterial tram routes.

An important event in 1901 was the visit to Queensland of the Duke and Duchess of York: it is pleasant to recall that Queen Mary, as she afterwards became, is still—fifty years later—a royal and commanding figure.

Most of Brisbane's practitioners were scattered throughout the suburbs, but a number of the largest practices were located on Wickham Terrace, in houses that are still

[1] Read at the annual meeting of the Queensland Branch of the British Medical Association on December 14, 1951.

standing. Some well-known doctors at this time were Peter Bancroft, A. B. Brockway, T. W. Francis, David Hardie, C. F. Marks and John Thomson.

In a later group were Graham Butler, A. B. Carvosso, Lockhart Gibson, A. C. Halford, Eugen Hirschfeld, Herbert Hopkins, Sandford Jackson, Wilton Love, R. A. Meek, W. N. Robertson, Alfred Sutton, and Jefferis Turner, of Brisbane; Aeneas Macdonald, of Toowoomba; J. A. Cameron, of Ipswich; V. Voss, of Rockhampton; and E. Humphrey, of Townsville. All these men, with many others too numerous to mention, played an important part in the medical history of the State over this period.

Doctors made their visits in dog-carts or buggies (Figure I). In country districts they often travelled on horseback with their instruments packed into saddle bags. Many patients, of course, went to their doctor's consulting rooms in their own vehicles or by "hansom", and often waited hours to be examined, even as they do on occasion today. One prominent Brisbane doctor was well known for his eccentric behaviour, often examining his patients well into the small hours of the morning.

FIGURE I.
Dr. David Hardie's dog-cart on Wickham Terrace, 1901.

Motor-cars were just then beginning to make their appearance, and doctors were foremost among those who tried the new vehicles. Motoring in those days was full of unexpected hazards, and a journey of more than a few miles was quite an adventure. These early motor-cars had acetylene lamps, no windscreens and no hoods, and were cranked, with some difficulty, by hand (Figure II).

At this time physiology was limited in scope and biochemistry had barely been heard of. Treatment of many medical conditions was largely empirical and polypharmacy was the vogue. However, these men of medicine were staunch pioneers and had no little skill in dealing with surgical emergencies, often under very difficult conditions, particularly in the country. I remember one wise old practitioner, still living, who described to me how he had once performed a successful Cæsarean section with the patient on a kitchen table. The simple instruments in common use were very different from the elaborate equipment of today, and ancillary aids were practically non-existent. Röntgen was at this very time experimenting with his first X-ray machine, and pathology was relatively in its infancy.

Specialization, as such, was not practised, but a certain amount of deliberate surgery was undertaken, the commonest operation being repair of inguinal hernia. As a result of the pioneering work of J. B. Murphy, of Chicago, appendicectomy was becoming more common; I have vivid recollections of an appendicectomy performed on me by Dr. Voss at Rockhampton in 1906.

In the 1920's, with the rapidly expanding population, there was a change in the trend of medical practice in Brisbane. New outlying suburbs were rapidly making their appearance, and young practitioners moved out into these areas. Quite a number of medical officers of the First Australian Imperial Force did post-graduate work in England after the war, and on their return they had a stimulating effect on medical practice in Queensland; within a few years a number of them had established themselves on Wickham Terrace as specialists; gradually the old custom of running large general practices from the centre of the city disappeared.

Prominent medical men at this time were Gifford Croll, G. P. Dixon, S. F. McDonald, Alex. Marks and Eustace Russell. All widely differing in character, each in his own way influenced medical practice in no small degree. However, these five men had one feature in common, in that they always looked for opportunities to help and advise their younger colleagues.

FIGURE II.
A group of well-known Brisbane doctors and their wives at the home of Dr. W. N. Robertson in the early days of motoring.

Nothing has reflected more the unceasing change in medical practice in all its aspects than the Brisbane General Hospital, the history of which goes back far beyond 1901.

During the penal era (1824 to 1839) there was a hospital called "His Majesty's Hospital, Brisbane", built by Captain Logan; for some years this was under the care of Dr. Keith Ballow, who held the title of Colonial Surgeon.

In 1850 the first Brisbane General Hospital was built in George Street, near where the Supreme Court now stands. Ten years later the Lady Bowen "Lying-in" Hospital, named after the wife of the first Governor of Queensland, was built on Wickham Terrace; here it continued to function until 1938, when it was superseded by the present modern Brisbane Women's Hospital at Bowen Bridge.

In 1866 the Brisbane General Hospital was moved from George Street to Bowen Bridge, where new buildings were erected at a site known as "The Quarries", and here it has remained to this day.

In 1901 (Figure III) there were 254 beds with a small honorary medical staff, a medical superintendent and three resident medical officers. At this time the hospital was maintained by public subscription, by payments of patients according to their ability to pay, and by a subsidy from the Government of £2 for £1. In addition certain fines imposed by police magistrates for "disorderly conduct" were added to hospital revenue.

Twenty-one years later—in 1922—I can remember that the resident staff consisted only of a medical superintendent and seven resident medical officers; in wards 8 and 9, Hare's original baths were then still in use for the considerable number of typhoid patients who were admitted to hospital during the summer months (Figure IV).

Not only the rapid increase in the population of the capital, but also the necessity for elaborate equipment,

the development of special departments, and additional accommodation, both relative and absolute, required for the nursing staff, have been influencing factors in the rapid expansion of the Brisbane Hospital over recent years. It is now a vast organization with 1350 beds, 63 part-time visiting specialists and a resident staff of 58 (Figure V). This is exclusive of the Brisbane Children's Hospital and the Brisbane Women's Hospital, which are of comparable size.

Remembering it as a resident medical officer twenty-nine years ago, I am able to say that the hospital has made tremendous strides. However, I am going to make two constructive suggestions for its further advancement. The first is the inclusion of at least two medical representatives on the Hospital Board, which up to the present has had no medical members at all; the second is an improvement in the compiling of case records and in the availability of accurate statistical material in sufficient detail. Until this is accomplished a vast amount of invaluable clinical information will continue to be lost.

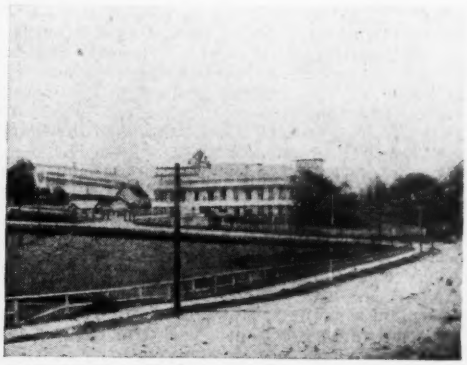

FIGURE III.
The Brisbane General Hospital, 1901.

FIGURE V.
The Brisbane General Hospital, 1951.

FIGURE IV.
Male typhoid ward, Brisbane General Hospital, 1901, with a patient in Hare's portable bath.

The gradual change in the hospital policy and administration throughout Australia over the last fifty years has been well described elsewhere. However, one must refer to the revolutionary changes which took place with the establishment of the Brisbane and South Coast Hospitals Board under government jurisdiction in 1924, the replacement of the honorary staff by a paid part-time visiting staff in 1938, and the abolition of the means test in 1946.

Whatever the merits and demerits of the part-time visiting specialist system, it has now become well established and will inevitably spread to embrace the public hospitals in other large towns in Queensland.

Another trend rendered necessary by the changing face of medical practice is the establishment of intermediate beds in all the larger public hospitals.

It is obvious also that denominational private and public hospitals will play an increasingly important part in our hospital organization in the future.

If we stop to think, we shall realize that during the last fifty years most of the great advances, not only in primary and secondary industry, but also in the professions, including medicine, have been made possible by the elaboration of electrical power and of the internal combustion engine; this is well exemplified in the almost unbelievable advances in the methods of transportation of patients in both peace and war. It is a far cry from the litter of 1901 to the modern ambulance car and the aerial ambulance of today, and from the slow and cumber-

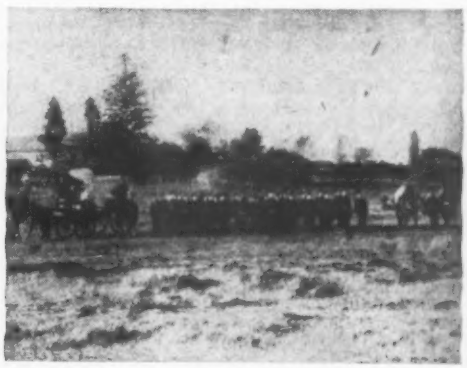

FIGURE VI.
Army horsed ambulance wagon, 1901.

some horse-drawn ambulance of the Boer War period (Figure VI) to the jeep ambulance of the South-West Pacific campaign and the Sikorski helicopter now lifting patients from the battle front in Korea direct to the well-equipped field general hospitals far behind the front line (Figure VII).

The establishment of the Faculty of Medicine within the University of Queensland in 1936 was an epoch-making event in the history of medicine in this State. There is no

doubt that its inauguration gave a much-needed impetus to the medical profession in Queensland, and it has already outgrown the beautiful building of Renaissance architecture which was originally planned to house it. Since its establishment, 394 young doctors have passed through its doors, and it has already found for itself a place beside the other medical schools in Australia.

Some concern has been felt about the increasing number of undergraduates entering the medical faculty; this danger is more apparent than real, and has been due in some measure to the large number of ex-servicemen returning to continue their interrupted courses. It should be mentioned here that ten of our medical students who served in the forces in the second World War lost their lives.

FIGURE VII.
Sikorski helicopter, evacuating a wounded man (Korea, 1951).

While there is no doubt that a balance will be struck between the number of undergraduates and the opportunities for practice available to graduates, one cannot help feeling that many students enter upon their medical course without any conception of the responsibilities which they must inevitably accept if they are to become, in the true sense, good doctors. They must appreciate, for one thing, that being a good doctor does not necessarily mean making a lot of money.

The aim of undergraduate medical education should be to instil sound basic principles and to inculcate scientific outlook and method.

In many universities the medical curriculum has expanded to such an extent that it has become a burdening of the mind with minutiæ of learning. This lends strong support to Osler's contention that examinations are not the be-all and end-all of undergraduate training, but rather that the general attitude of the student and his approach to his work throughout his course are important factors in assessing his suitability for graduation. One feels also that every effort must be made to balance ability in what I call academic acrobatics against the necessity for a wholesome outlook, a capacity for reasoning and a true sense of values. In these days of ancillary aids and the ever-increasing clinical implications of biochemistry, students will do well to remember the vital importance of accurate history-taking and of thorough and painstaking clinical examination.

The medical faculty has recently shown commendable initiative and no little courage in making a radical alteration in its six-year curriculum. Some features of this change are the following: (i) reduction of time spent in pre-medical subjects; (ii) earlier introduction of clinical training; (iii) written examinations in the final subjects at the end of the fifth year; (iv) reservation of the sixth year for hospital practice (in part in residence) free from didactic instruction.

This innovation, which will inevitably at first be a matter of trial and error, will be watched with interest by all Australian medical schools, and may well become a yardstick for the development of comparable changes in other States.

We can, I think, look back with satisfaction on the progress made by our medical school during its short life of fifteen years; it is, however, an inescapable fact that, unless care is taken to see that teaching appointments are made sufficiently attractive, and unless all departments—both pre-clinical and clinical—are adequately staffed, then teachers of high calibre and in sufficient number will not be available, and as a result of this the school will retrogress both in standard and in status.

Turning now to the question of our present-day graduates, I think we must all agree that the era of the specialist has arrived and that he is a most essential part of a comprehensive medical service. However, the general practitioner is, and should remain for very many years, the backbone of the medical profession in Queensland. There is, at the moment, a real danger not only that overemphasis will be placed on specialization to the detriment of sound general practice, but that intensive specialist training will commence too soon after graduation, or indeed even before graduation.

The dignity and importance of general practice properly conducted must never be lost sight of. Many facets of human relationship will never be learnt in the artificial atmosphere of the training hospital or in the specialist's consulting room. For my part, I would incorporate into the curriculum some undergraduate training in domiciliary medicine and would insist on a period of general practice before any graduate was allowed to embark on his chosen specialty. Only thus will our graduates who wish to specialize acquire that balanced foundation on which the superstructure of a particular branch of medicine or surgery can be soundly built.

In Queensland the question of specialization is wrapped up in the requirements of the *Medical Act*, which demands the possession of a higher degree or diploma before one can engage in specialist practice. It is hoped that the facilities already available for men in general practice to obtain these qualifications without leaving Australia will be elaborated.

While it is most desirable that as many as possible of our graduates should make overseas visits, I am inclined to believe that more benefit accrues from these visits if they are made not for the specific purpose of gaining a higher qualification, but rather with the object of garnering experience in one's chosen career without the millstone of an impending examination hanging round one's neck.

It would be out of place, nor is it my intention, to discuss the amazing advances in all branches of medical science which have taken place in the last half-century, for already these have been splendidly recorded in the *British Medical Journal* and in the Jubilee Number of THE MEDICAL JOURNAL OF AUSTRALIA this year. However, I cannot refrain from mentioning briefly some figures which speak eloquently of the benefits of improved community hygiene and preventive medicine. In 1901 the infant mortality up to the age of one year in Queensland was 101·9 per 1000 live births; in 1950 this figure had been reduced to 24·8 per 1000 births.

During the last fifty years we have experienced two world wars in which many Queensland medical officers served; eight lost their lives and quite a number suffered captivity with stoical fortitude, sometimes under conditions of almost indescribable hardship. In spite of these wars to end war, we seem as far removed from stable peace as ever. This is indeed a sad reflection on the sanity of the human race. More especially is this so when one realizes that science has now elaborated weapons the deadly nature of which was unthought of fifty years ago. War, which was once a straightforward matter of opposing armies, has now become a ruthless affair of opposing populations which threatens to exterminate the human race, or at least to cast us back into the dark ages.

However, looking into the future, I should like to present a thesis which offers some ground for reasoned hope and optimism. In the course of time there has been a gradual elaboration of weapons of offence, and the natural corollary has been the development of comparable weapons of defence. The shield is as old as the sword. Armour came into being as a defence against the arrow. The castle and the moat afforded protection against marauding enemies. And so the story unfolds until the First World War, when the power of massed artillery and machine guns forced armies underground and a virtual stalemate was reached.

In the early days of the Second World War the submarine threatened the very existence of Great Britain. Submarines had been greatly improved in between the two wars, and by 1939 had considerable speed and were built with a tough hull; they could also submerge quickly to several hundred feet and could turn in tight circles. However, although admittedly the issue was in doubt for some time, methods to combat the submarine were steadily elaborated. Eventually, radar, sonar, sono-buoys and magnetic air-borne detectors became so efficient that the German admiral Doenitz wrote in December, 1943: "The enemy has rendered the U-boat ineffective." This happened, of course, before the post-war introduction of really high-speed submarines equipped with Schnörkal and long-range torpedoes, against which even more elaborate methods of defence will have to be elaborated.

The history of the campaigns on land in the last war may lead one to believe that offensive power has outstripped defence. This, however, is open to serious question. Even in the air, defence has reached a stage at which some experts believe that mass bombing as it was practised in the last war is a thing of the past against a prepared adversary.

This leads us naturally to a consideration of the implications of nuclear fission as an instrument of war. When, after years of intensive research, the first atomic bomb was used in war on August 6, 1945, a new era in world history was upon us. As a result of a single bomb dropped on Hiroshima 60,000 people lost their lives. One does not need much imagination to realize the dread possibilities of this weapon in the future, when it will have been stockpiled and will have developed even more deadly potential than it has at present.

However, here again there are other factors to be considered. A planned civil defence organization will help considerably to reduce the number of atomic-bomb casualties. Much more important, however, will be the means of defence adopted to prevent the bomb from reaching its target; these include among other things interception radar, jet pursuit planes, very fast guided missiles and the proximity fuse. Indeed, who knows what further scientific means of defence may come to light to answer this new threat to the stability of the world?

In the meantime, while we are living in an atmosphere of uneasy peace—if one can call it peace, with our troops fighting in Korea—the United Nations Organization, which is pledged to uphold the principle of international moral law to the exclusion of aggressive nationalism, is exploring every avenue in a very real attempt to overcome the problems that today beset us on all sides. Let it be our earnest prayer that a way will be found for the peoples of the world to live in peace and harmony, with that reasonable interchange of cultural ideas and material goods that makes for the welfare and happiness of all.

Surely, then, this is no time for helpless pessimism nor for fatalistic self-indulgence, but rather for a recognition of our obligations to society. Freedom in the end must triumph over thraldom, but community freedom can be achieved only if all members of society recognize their individual responsibility to the community as a whole. And so, as a profession, let us shoulder our responsibilities and bearing in mind the high nature of our calling, step forward with serenity to the years that lie ahead.

RECENT TRENDS IN AVIATION MEDICINE ABROAD.[1]

By E. A. DALEY, C.B.E., M.B., B.S., F.R.A.C.P., D.T.M., K.H.P.,
Air Commodore, Royal Australian Air Force Medical Service.

MUCH of the information which I have gathered recently overseas has to do with the service to which I belong, and I am not at liberty to discuss it at a gathering such as this. However, there are important aspects in aviation and aviation medicine today which vitally concern us and call for comment; they may even be of passing interest to other medical men in this country.

I refer to the immediate medical problems associated with flight in modern service aircraft. Tremendous advances in technical development and performance have been achieved since the end of the war and are continuing. They are, of course, largely due to the evolution of the jet engine and modern aircraft design, which have resulted in great increases of speed, astounding rates of climb, higher ceilings and breath-taking performances.

As a result of these factors many aspects which one saw were associated therefore with high-altitude flight and high-speed flight, and I propose to refer this evening to some of these problems on which aero-engineers and aviation medical workers are engaged. Of necessity I must refer to some of their reports and quote others in connexion with certain fields of activity.

Aircraft speeds have increased since the war from some 300 miles per hour to over 600 miles per hour, easily attainable ceilings have increased from 20,000 feet to 50,000 feet, and increased rates of climb have made it possible to reach 40,000 feet in a few minutes. These results of aeronautical design and achievement have created a serious challenge to man's physiological ability to function adequately and safely in these aircraft performances. So far this challenge has been met.

The problems have of necessity brought the aeronautical engineer, the aircraft designer, the physiologist and the aviation medicine worker closer and closer together as developments have progressed. This is noticeable in England and America and has resulted in a combined approach to the problems, since, for the present at least, it is no use having an aircraft of magnificent performance if it is impossible for a man to survive in it during flight or to get out of it should he lose control whilst in the air. In this modern aviation environment we must arrange to keep the airman physiologically efficient and safe. Two highly important aspects emerge for consideration: (i) high-altitude problems and (ii) high-speed problems.

HIGH ALTITUDE.

If you will forgive me for referring for a moment to the composition of the atmosphere and to the question of barometric pressure, you will see that these are intimately related to the subject under discussion. As we all know, atmospheric pressure at ground level is approximately 760 millimetres of mercury, and of this, about 160 millimetres represent the partial pressure of oxygen. With ascent into the atmosphere the total pressure of the air diminishes steadily, and with this overall pressure reduction there is a reduction in the partial pressure of oxygen (Table I and Figure I). The decrease in oxygen pressure means that the amount of oxygen which can force its way into the blood-stream is correspondingly reduced. Without sufficient oxygen to sustain normal physiological function we have the problem of anoxia. This may be acute or chronic.

Acute anoxia is associated with a complete failure of supply at, say, 30,000 feet and becomes immediately obvious to the sufferer. Unconsciousness supervenes unless action is taken straight away.

[1] Read at a meeting of the Special Group on Aviation Medicine, June 14, 1951, at Melbourne.

TABLE I.

Altitude-Pressure-Temperature Table, to which are Added the Equivalent Oxygen Percentage and Partial Pressure (Based on the United States Standard Atmosphere).

Altitude. (Feet.)	Inches of Mercury.	Pressure. (Millimetres of of Mercury.)	Pounds per Square Inch.	Temperature. (Degrees Centigrade.)	Equivalent Oxygen Percentage (Dry).	Partial Pressure Oxygen. (Millimetres of Mercury.)
0	29·921	760·0	14·69	15	20·93	159·0
1,000	28·86	732·9	14·17	13	20·18	153·3
2,000	27·82	706·6	13·67	11	19·46	147·8
3,000	26·81	681·1	13·17	9	18·76	142·5
4,000	25·84	656·3	12·69	7	18·07	137·3
5,000	24·89	632·3	12·22	5	17·41	132·3
6,000	23·98	609·0	11·77	3	16·77	127·4
7,000	23·09	586·4	11·34	1	16·15	122·2
8,000	22·22	564·4	10·91	−1	15·54	118·1
9,000	21·38	543·2	10·50	−3	14·96	113·6
10,000	20·58	522·6	10·10	−5	14·39	109·3
11,000	19·79	502·6	9·72	−7	13·84	105·1
12,000	19·03	483·3	9·34	−9	13·31	101·1
13,000	18·29	464·5	8·98	−11	12·79	97·2
14,000	17·57	446·4	8·63	−13	12·29	93·4
15,000	16·88	428·8	8·29	−15	11·81	89·7
16,000	16·21	411·8	7·96	−17	11·34	86·1
17,000	15·56	395·3	7·64	−19	10·89	82·7
18,000	14·94	379·4	7·33	−21	10·45	79·4
19,000	14·33	364·0	7·03	−23	10·02	76·1
20,000	13·75	349·1	6·75	−25	9·61	73·0
21,000	13·18	334·7	6·47	−27	9·22	70·0
22,000	12·63	320·8	6·20	−29	8·83	67·1
23,000	12·10	307·4	5·94	−31	8·47	64·3
24,000	11·59	294·4	5·69	−33	8·11	61·6
25,000	11·10	281·9	5·45	−35	7·76	59·0
26,000	10·62	269·8	5·22	−37	7·43	56·4
27,000	10·16	258·1	4·99	−39	7·11	54·0
28,000	9·72	246·9	4·77	−41	6·80	51·6
29,000	9·29	236·0	4·56	−43	6·50	49·3
30,000	8·88	225·6	4·36	−44	6·21	47·2
31,000	8·48	215·5	4·17	−46	5·93	45·1
32,000	8·10	205·8	3·98	−48	5·67	43·0
33,000	7·73	196·4	3·80	−50	5·41	41·1
34,000	7·38	187·4	3·62	−52	5·16	39·2
35,000	7·04	178·7	3·46	−54	4·92	37·4
36,000	6·71	170·4	3·29	−55	4·69	35·6
37,000	6·39	162·4	3·14	−55	4·47	33·9
38,000	6·10	154·9	3·00	−55	4·27	32·4
39,000	5·81	147·6	2·85	−55	4·06	30·8
40,000	5·54	140·7	2·72	−55	3·87	29·4
41,000	5·18	134·2	2·59	−55	3·70	28·0
42,000	5·04	127·9	2·47	−55	3·52	26·7
43,000	4·80	122·0	2·36	−55	3·36	25·5
44,000	4·58	116·3	2·25	−55	3·20	24·3
45,000	4·36	110·8	2·14	−55	3·05	23·1

Chronic anoxia appears when a sustained slightly diminished pressure of oxygen is breathed, with the production of the dangerous combination of increased confidence and reduced judgement. It resembles the effects of a few drinks. This set of conditions may develop when one has been flying for, say, two or three hours at 12,000 to 14,000 feet with reduced oxygen pressure. Unfortunately the sufferer may be completely unaware of his state of anoxia with the resultant increased hazard.

As we know, air is a mixture of gases, consisting of nitrogen, oxygen, carbon dioxide, small amounts of certain rare gases, and a variable amount of water vapour. At all heights (certainly up to 50,000 feet) we can regard the percentage by volume of the gases composing the air as remaining constant. We remember from Dalton's law of partial pressure that in any mixture of gases the total pressure of the mixture is equal to the sum of the partial (or individual) pressures of the gases making up the mixture. In addition, Avogadro's hypothesis states that equal volumes of different gases at the same temperature and pressure contain the same number of molecules. Further, from Boyle's law, at the same temperature, the volume of a gas is inversely proportional to the pressure exerted on it. These laws have a direct bearing on our changing altitude problem.

An oxygen pressure of 160 millimetres of mercury is, as we see, the customary essential in the air breathed by individuals normally resident at or about sea level. Thus the percentage of the gases composing the atmosphere breathed must at all heights be altered to maintain an oxygen pressure of about 160 millimetres of mercury if physiological efficiency is to be maintained and anoxia avoided (Table II). In flying, this alteration is first accomplished mechanically by displacement of the nitrogen and other gases with additional oxygen through a face mask. Unfortunately the partial pressures in the lungs of carbon dioxide (43 millimetres of mercury) and water vapour (47 millimetres of mercury) remain, of course, constant with ascent or descent, and are a physical handicap with diminished oxygen pressures, but are quite unavoidable.

As we ascend in the atmosphere, the total pressure of all its gases eventually falls to 160 millimetres of mercury at about 36,000 feet, and thereafter even the breathing of pure oxygen will obviously not supply that gas at a sufficient pressure, and anoxia ensues. The answer to anoxia in flight above 36,000 feet is oxygen at pressure not less than 160 millimetres of mercury. To meet this workers are thinking in terms of (*a*) pressure cabins, (*b*) pressure suits, (*c*) pressure waistcoats.

The pressure cabin method is receiving great attention, since it has a bearing on all flying, service and civil, and is useful for one, two or many people. It consists really in producing by pressurization a physiological altitude within the aircraft cabin equivalent to that existing at a height very much below the aircraft's actual flight altitude.

Thus in a jet aircraft flying at 40,000 feet the atmosphere within the pressure cabin is arranged to be the same as that encountered at a height of, say, 25,000 feet, and the oxygen supply theoretically required is only that which would be needed when the aircraft was flying unpressurized at 25,000 feet. However, in service aircraft a special supply is available always in case the pressurization should suddenly fail. Pressure cabins are being adopted generally in service and civil aircraft.

The pressure suit in effect is rather like a "diving suit" of rubber, canvas and "Perspex", which provides an emergency pressure cabin around the body of the pilot in case the main cabin pressure should fail at extreme altitude or in non-pressurized aircraft. Some form has existed since 1937 in the Royal Air Force, when Squadron Leader Swain created a high-altitude record. The respiratory

physiology was written by Struan Marshall. These suits are difficult and cumbersome and are more for special conditions.

The pressure waistcoat was developed during the war and is used as an interim measure when high-altitude work over 36,000 feet is required in non-pressurized aircraft. It is also employed as a safety device in pressurized cabins at heights over 42,000 feet. It allows of limited pressurization within the pilot's oxygen mask by utilizing normal

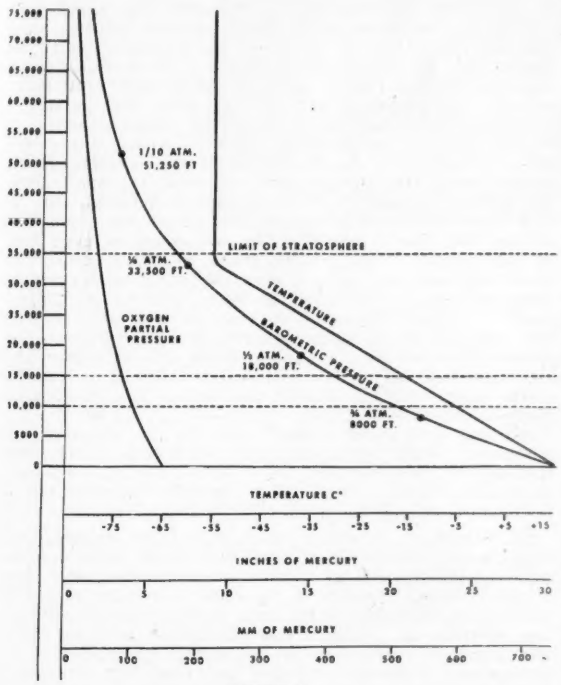

FIGURE I.
Physical characteristics of the standard atmosphere.

chest movements to expel oxygen from a fitted double-layered waistcoat jacket into the special coupled-up pressure breathing mask. It is rather uncomfortable to wear and increases one's height tolerance only to about 42,000 feet—according to the efficiency of the mask's fit. However, it may permit respite in emergency with cabin failure at higher altitude. It does not prevent "bends". So much for methods of combating anoxia at altitude and also decompression sickness in the case of the pressure cabin and pressure suit.

Explosive Decompression.

The penalty for possessing a pressurized cabin is, of course, that the cabin may be suddenly punctured by a cannon shell or that the cockpit cover may fracture. The pilot and crew then suffer an extremely rapid ascent from, say, 25,000 feet to 40,000 feet. This phenomenon is known as "explosive decompression". Over the range just mentioned (that is, 25,000 to 40,000 feet) explosive decompression is unpleasant, but it is not dangerous with an oxygen mask available. Of course, the time element is important. As a problem, decompression warrants study and practice.

According to observations and from personal experience we can say that amongst the chief effects are the following: (*a*) An initial sense of shock. (*b*) Cooling, due to rapid expansion of air and condensation of water vapour on the glass *et cetera* around the crew. (*c*) Sudden expansion of intestinal gases, with the production of abdominal pain. Symptoms are dependent, of course, on the amount of gas existing in the intestines at the time of decompression. In extreme cases damage to the intestines or stomach is possible. (*d*) Sudden expansion of the air in the lungs, with a sensation of its passing out through the mouth and nose. The severity of this particular phenomenon is affected by the amount of air contained in the lungs at the time of decompression—that is, whether one has just completed an inhalation or an exhalation. The lungs may possibly be damaged in frequently repeated explosive decompressions, or when the change of height is considerable. (*e*) Gas expansion in sinuses and middle ear may give pain if release is not quickly effected.

TABLE II.

Composition of Air by Volume.		Pressure at Sea Level (Millimetres of Mercury.)		Pressure at 20,000 Feet. (Millimetres of Mercury.)		Altered Percentage Required at 20,000 Feet.
Oxygen	21%	160	760	73	346	46%
Nitrogen	78%	593		270		
Carbon dioxide	1%	7		3		54%
Water vapour						
Argon						
Neon						
Krypton						
Helium						
Xenon						

The effects on the human frame depend on the severity of the decompression and on the following factors: (*a*) the change of height which occurs, dependent on the original pressure difference between the inside of the cabin and the outside air; (*b*) the size of the hole or leak; (*c*) the volume of the cabin. Factors (*b*) and (*c*) affect the speed at which the ascent will be made.

An aircraft with a large cabin volume will therefore give a much lower rate of decompression than one with a small cabin volume for a standard size of leak. This permits, if necessary, a large type aircraft—for example, bomber size—to be generally pressurized higher than a fighter type aircraft. Large aircraft are less likely to be penalized by such critical considerations of weight than the fighter type and so can afford the greater structural strength and large capacity pumps necessary for the higher pressures—that is, more oxygen capacity.

To maintain ground-level conditions in the cabin of an aircraft flying at 40,000 feet it would be necessary to pressurize the cabin to about 14 pounds per square inch—a very serious engineering problem involving the following: (*a*) increased weight for strengthening the pressure cabin; (*b*) greater mechanical power for suitable capacity compressors with associated increase in weight; (*c*) possible damage to occupants in the event of an explosive decompression; (*d*) the risk of ejecting occupants from the aircraft in the event of a window or a hatch failing.

American experiments on this subject have shown that a passenger could be sucked from an aircraft and thrown some distance through fracture of an astradome. This possibility always exists and accidents have occurred.

In large aircraft in which pressurization exists, useful safety measures include the following: (*a*) safety harness should always be in use, especially when one is in the vicinity of hatches that might fail; (*b*) oxygen and masks should always be available and, in service aircraft, be worn, in case of a total pressure failure.

In explosive decompression at high altitude the period of useful consciousness without ample oxygen is of vital importance as to its permitting time for something appropriate to be done with the aircraft in order to bring it down to a safe level. Table III, after Whittingham, shows the extremely small time margin at various altitudes with an 8,000 to 10,000 feet pressurization in this connexion, indicating the need for automatic devices to warn and assist pilots and crews in effecting quick descent.

The occurrence of "bends"—that is, the formation of gas bubbles coming out of solution from body fluids and tissues when external pressure on the body is reduced—is a variable factor with subjects on explosive decompression; it is like taking the top off a soda-water bottle—nitrogen, oxygen *et cetera* bubbles occur in various places—joints, muscles, the mediastinum—and give rise to pain, cramps and choking sensations. Aircrew reacting badly in altitude chamber tests to "bends" are restricted as to height in non-pressurized cabins.

TABLE III.

Physiological Data for Healthy Subjects when Suddenly Decompressed at Higher Altitudes with the Cabin Pressurized to the Equivalent to Altitudes of 8,000 to 10,000 Feet.

Altitude at Decompression. (Feet.)	Time of Useful Consciousness at Rest Without Oxygen.		Last Gasp.	Period During which Death will Supervene.
	Average.	Extremes.		
40,000	20 to 30 seconds.	10 to 60 seconds.	100 seconds.	3 to 5 minutes.
35,000	30 to 50 seconds.	10 to 120 seconds.	450 seconds.	8 to 10 minutes.
30,000	50 to 120 seconds.	16 to 600 seconds.	—	10 to 12 minutes.
25,000	2 to 5 minutes.	1 minute to 1 hour.	—	20 to 60 minutes.
20,000	2 to 15 minutes.	3 minutes to 4 hours.	—	Up to 4 hours.

Practice explosive decompression for certain aircrew members may become an accepted thing. It is done with two decompression chambers having the required pressure differential with a thin partition of particular size capable of being instantaneously fractured and creating a common pressure between the two chambers.

Cabin and cockpit pressurization also involves complex additional problems of temperature and humidity control, oxygen, air-change rate *et cetera*, to maintain the occupants physically and mentally fit; but this will be referred to later and is an engineering problem.

Visual Problems.

Observations and reports on high-altitude flights indicate peculiar changes in visual effects. The sky becomes darker. Further, although the sun is shining brightly as a red sphere in a dark sky, the cockpit below the edge of the panel becomes dark, and illumination is insufficient for practical purposes. There are reduced visibility and the sensation of a haze, which interferes with accurate visual observations, associated with an apparent increase in the blue intensity of the light. The diminished visibility is said to be due to intraocular scatter of these blue and other light rays. Many of these shorter waves of the spectrum are normally stopped at lower altitudes by water vapour *et cetera*, but at the high altitudes are received by the eye less filtered, with a resulting increase of intensity and more blue elements of the spectrum.

There has been noted also a slow recovery from glare received off bright clouds. Glare is, of course, changing all the time in its intensity, with the presence of clouds at varying altitudes and locations relative to the aircraft.

The interference with visibility, the intraocular scatter of the blue rays and the haze and glare, also cockpit darkening, are being studied with a view to adapting the pilot to these disturbing conditions.

Green House Effect.

Penetration of the sun's rays through the transparent "Perspex" onto the aircrew members and raising of the temperature within the cabin are serious on occasions.

Cosmic Rays.

Using recent discoveries in cosmic ray physics and the report of Hess and Eugster on cosmic radiation and its biological effects, Krebs states that at these high-flying altitudes biological effects of cosmic radiation have to be expected. Schaefer confirms this idea particularly with reference to the difficulty of protection from what he calls "heavy nuclear rays" at "the upper end of the air blanket".

So much for altitude aspects; we now come to high-speed problems.

HIGH SPEED: 500 PLUS MILES PER HOUR.

Noise.

The first problem to mention is noise associated with both jet and reciprocating engines and high speed. In considering the question of noise here the word is used advisedly, since it may not necessarily be perceptible to the human ear. However, I should like to indicate the accepted meaning between the words "supersonic" and "ultrasonic" as used by the Royal Air Force. The first refers to projectiles travelling faster than the linear velocity of sound; the second refers to "sound" (used advisedly) whose frequency is outside the range of perception of the human ear. The human ear, if normal, is usually considered to appreciate a frequency range between, say, 20 and 20,000 cycles per second, the upper limit possibly falling with age to 18,000 cycles per second or even less. In all aircraft "noise" is produced by the engines, the propellers, and the airflow over the wings and fuselage (aerodynamic); this noise is both "sonic" and "ultrasonic". Workers have shown that for equivalent speeds the total amount of noise occurring in the cockpits of jet aircraft does not show any pronounced difference from the total amount met with in equivalent aircraft driven by reciprocating engines; but in the case of the jet aircraft there is reported a greater proportion of high-frequency sonic and ultrasonic "noise" than in the piston-driven aeroplane. With increasing speed there is a considerable increase in this high-frequency noise, arising obviously from aerodynamic causes. However, with properly fitting helmets the general sound level in jet aircraft is reasonable.

Extraordinary effects on the human body attributed to high-frequency sound have been publicized. However, so far, on data obtained by Dickson and Chadwick, who used a narrow band analysis of the noise spectrum of 50,000 to 60,000 cycles per second from turbo-jet engines at six feet distance in front of the air intake covering 5000, 6000 and 7000 revolutions per minute, there appears to be no concrete scientific evidence to show that ultrasonic noise produces any very special symptoms or permanent ill effects in the human being. Intensities in the ultrasonic range were low (72 to 80 decibels) and are not considered likely to cause any deleterious effects; but in sonic ranges intensities up to 138 decibels were noted. The investigators report that one aircraft firm has found that the sickness rate for employees working in the engine-testing shops does not differ appreciably from that for other less noisy parts of its factory. However, they have observed that long periods in the engine-testing department produce great tiredness, which a good night's rest will cure. So far as sonic frequencies of jets are concerned, the main effect of the sound seems to be the production of temporary deafness, mental dulness and fatigue. The extent of these temporary effects is determined largely by the intensity of the noise rather than by its particular frequency range. The high whine associated with jet aircraft is due to air intake by the impellor.

Ultrasonics produce some heating effects with very high frequencies. Rosenthal, in his "Ultrasonics in Clinical Medicine", reports as follows:

> We have been able to demonstrate to our satisfaction the therapeutic effectiveness of this new modality in clinical medicine, in post-traumatic conditions, in painful afflictions of the muscles, nerves and joints, and in the amelioration of localized congestive disturbances.

On the generation and analysis of ultrasonic noise at high intensity and its effect on living organisms Ghose makes the following statement:

> Measurements of the intensity at varying frequency of ultrasonics arising from jet engines on test beds and jet aircraft in flight at a speed not higher than 300 m.p.h. have shown that ultrasonics are present up

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to a frequency of at least 100kc/s. The intensities so far measured, however, are not of such magnitude as to cause any harm to ground personnel or aircrew. It is anticipated that with airspeeds approaching the speed of sound, the ultrasonic "noise" intensities may be high. The major part of the ultrasonic "noise" produced under these conditions of flight is aerodynamic in origin.

High-intensity sound from aircraft engines can with continual exposure and no protection in time produce a more permanent type of deafness, in which the perception of certain of the higher frequencies is impaired more than that of the other lower frequencies. In flying, the wearing of well-fitting, serviceable helmets appears to give sufficient protection. Cabin insulation against noise is receiving attention. On the ground avoidance of unnecessary exposure to intense noise levels—for example, certain areas behind jet engines "running up"—is desirable. Research suggests that aircrew audiograms indicate no special deterioration compared with the civilian community in similar age groups.

Kinetic Heating.

If we attain high indicated air speeds at low altitudes kinetic heating is a problem to be faced. It is a type of heating which is produced by suddenly bringing an airflow to rest, relative to the aircraft, both in the boundary layer, and in the cabin-ventilating system. It is, of course, a condition which begins to assume particular importance in the higher speed ranges, especially at low altitudes, and in point of fact, if a speed of 600 miles per hour is sustained for any length of time, workers have shown that the rise in temperature of the interior of the cockpit may be about 80° F.

In tropical and subtropical countries, where ordinary ambient temperatures of 105° to 120° F. are met, and where the "greenhouse" effect of heat rays striking through "Perspex" canopies is troublesome, the addition of kinetic heating represents a very serious problem. Cockpit temperatures of 140° F. have been recorded on low-level work in the tropics, and pilots experiencing such conditions have been aware of extreme discomfort, lassitude, carelessness and great fatigue at the end of the day.

The requirements for pressure cabins include pressurization, humidity control, air filtration, ventilation and temperature control. Some degree of cockpit air-conditioning involving refrigeration *et cetera* is essential, and much work has been done on the various physiological requirements in this connexion by Roxborough and Gabb, and by Matthews and Stewart (British Overseas Airways Corporation). The engineer must solve it for us.

Performance requirements by aircraft will demand that air-conditioning apparatus be minimal in weight, but it should be able to deal with the great heat possibly encountered at low altitude, as well as the extreme cold encountered at high altitude—not an easy specification to fulfil. The provision of some cooling facilities at least appears to be reasonable in jet aircraft pending further aeronautical engineering developments.

The problems of excessive heating or cooling of aircraft, coupled with the difficulties of the air-conditioning and heating of cabins, have prompted considerable thought, since aircrew may operate from arctic or tropical climates. Temperatures on the ground and in the air must, in all conditions, be controlled in order to maintain comfort and physiological efficiency. This involves also clothing considerations. Flying clothing is now complicated with too many attachments—for example, oxygen, dinghy, survival kit *et cetera*—and is a special operational and medical study.

Supersonics.

Next we come to supersonics—that is, speeds greater than the speed of sound.

The theory of flight of Bernoulli laid the basis of subsonic aerodynamics. To make this theory apply it was assumed that air was not compressible, and we are told that it is not, for practical purposes, up to a speed of about 300 miles per hour. Today we are beyond that speed, so the compressibility of air is beginning to affect us.

From our physicist and engineer friends we learn that in moving through the air an object sets up pressure waves which spread in all directions at the speed of sound. Those pressure waves that travel ahead of the object in effect "warn" the air ahead that something is approaching, and so enable it to begin moving out of the way. Wind-tunnel experiments show that the airflow begins to divide at quite a distance in front of an aerofoil before flowing around it. The aerofoil is the wing shape. Figure II shows smooth air-flow at low speeds.

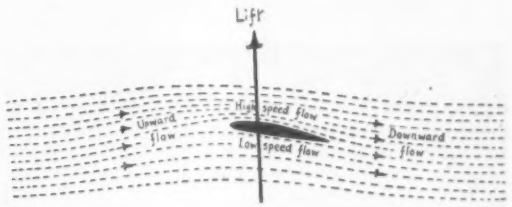

FIGURE II.
Flow of air past an aerofoil (from Kermode, 1941).

There is a special significance to the speed and sound relationship. Since the pressure waves travel at the speed of sound, the closer the aircraft's speed is to that of sound, the less "warning" the air will receive, until, during flight at the speed of sound, there will be no indication of the aircraft's approach. There will be no time for the air to divide smoothly, and so it will tend to pile up at the leading surfaces in what are known as "shock waves". The air in front of the shock waves is compressed, while behind it tends to break away and become turbulent (Figure III). With an aerofoil this causes alterations in

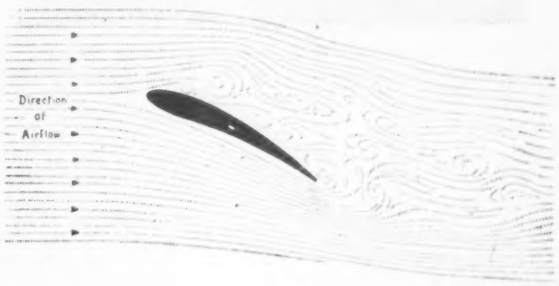

FIGURE III.
An aerofoil stalled (from Kermode, 1950).

the lift and performance. The site of maximum lift alters as the shock wave changes its position, creating in each aircraft different handling characteristics. The jet pilot has to watch for, appreciate and negotiate these as they develop, the result of compressibility (Figures IVA, IVB, IVC, IVD and V).

This change in the air-flow behaviour begins on any part of the aircraft when the speed of the air over that part approaches the speed of sound. A term, the "Mach number", called after Dr. Mach, the Austrian scientist, has come into being. It is expressed as the speed of the aircraft divided by the speed of sound, and is registered on a Machmeter—the local Mach number on the wing or fuselage *et cetera* is, for example, 0·75, 0·8 or 1·0.

For some aircraft this onset of compressibility occurs with the Machmeter reading about 0·77, for others less, about 0·73 of the speed of sound. The Machmeter is used

along with the air-speed indicator. The latter does not show the proximity of compressibility in relation to the speed of sound, but the new Machmeter informs the pilot of it. There is a maximum tolerable Mach number for each aircraft, at which the handling qualities under compressibility remain safe. (Swept-back wings delay the onset of the process in part, along the leading edge.) At altitude the speed of sound is greater, therefore a higher Mach number and aircraft speed are possible apart from technical considerations.

As air increases its speed when flowing over cambered shapes, it is possible for the air-flow over certain aerofoil-shaped portions of the aircraft to be approaching the speed of sound when the aircraft itself is flying below that speed. Therefore shock waves may occur at any part where the

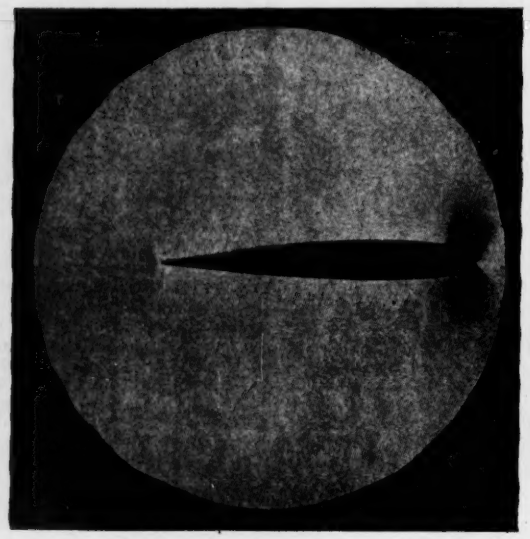

FIGURE IVA.

At 456 miles per hour, a scale model of a conventional wing section, photographed in a wind tunnel, makes very little disturbance as air flows round it. Slight turbulence shows at the tail.

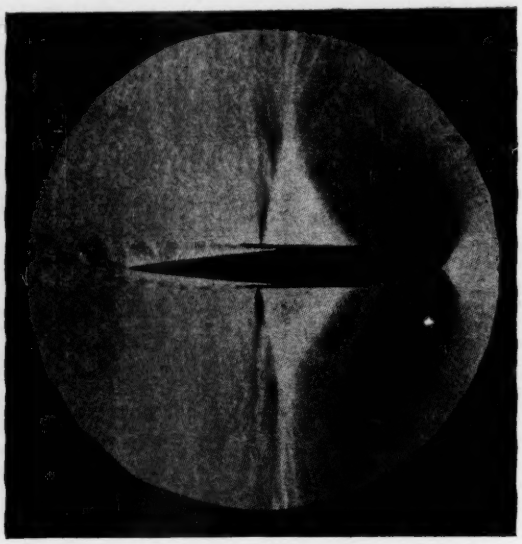

FIGURE IVB.

At 630 miles per hour the same wing is in severe compressibility trouble. Shock waves have now formed over the wing and considerable turbulence shows up.

shape tends to increase the local velocity of the air-flow, and we have buffeting rather as in a speed boat.

The pilot cannot safely rely on his senses even in acceleration (or deceleration) in the same direction as the line of flight of the aircraft, for rapid acceleration produces a sensation of climbing, and rapid deceleration (as when the dive brakes are used) produces a sensation of diving. Combinations of visual, vestibular and somatic illusions *et cetera* can occur—"Sensory Illusion in Flying", by Captain G. E. Schafer, deals admirably with this. Such sensations must be understood and experienced, so that under actual instrument flying conditions they may the more easily be subordinated to the indications given on the instrument panel. It is essential for crews to learn to ignore personal sensations when flying on instruments in any aircraft, but in high-speed aircraft the sensations to be ignored do tend to be rather more powerful than in slower machines.

Therefore high-speed instrument flight now requires good concentration, good coordination and quick reaction. It tends to be fatiguing for people experienced only in the more leisurely types of instrument flight, particularly at high Mach numbers, until they become experienced. The pilot's harness must be securely fastened if he is to avoid injury—particularly injury to the head in buffeting.

The anti-"G" suit still has a place in some forms of high-speed flying and reduces fatigue in particular manœuvres where "G" is repeatedly applied—for example, a pull-out from a low-level flight.

Man's passage through the transonic zone—that is, Mach number 0·85 to 1·15—to the supersonic zone has apparently been effected, but it is too early to comment on reliable medical observations at this juncture. Return through the transonic to the subsonic region again requires special consideration in future flying.

Escape—"Bale Out".

Escape is obviously very important to crews and affects morale.

The escape from low-speed aircraft by parachute has for years been safely effected by the process of climbing out into the slipstream and falling clear of the aircraft. With high-speed aircraft, on the other hand, the position is very much complicated by the following points: (*a*) Air-flow past the cockpit at high speed offers great physical resistance to anyone trying to force his way into it—rather like the resistance encountered in forcing one's finger into a fast jet of water. (*b*) At high speed, even if the pilot has managed to leave the cockpit, there is the risk of being brushed along the surface of the aircraft and striking parts of the structure. (*c*) High-speed air-flow produces definite blast effects to be faced as the pilot leaves the aircraft. These vary from gross mechanical limb and joint injuries to tearing of the soft tissues and even actual burning of the skin and frost-bite.

From a modern jet aircraft travelling at speed safe escape can be achieved only by the use of parachuting jettisonable cabin shells containing crew members or by ejector seats. The former presents difficulties as to the securing of both effective and complete separation of the cabin from the aircraft, and, later, stability in the air.

The method of choice at the present day is the ejection seat, and it has in fact been used in aircraft travelling at over 500 miles per hour.

The ejection seat is fundamentally a means of explosively throwing the pilot and his seat out of the cockpit in an upward and slightly backward direction (actually in line with the slightly sloping back of the seat). The required force is obtained from the combustion of an explosive charge. The expansion of the combustion gases forces and accelerates the seat upwards. The charges are fired by the act of pulling a canvas blind down over the face, and this blind also serves to hold the head back rigidly

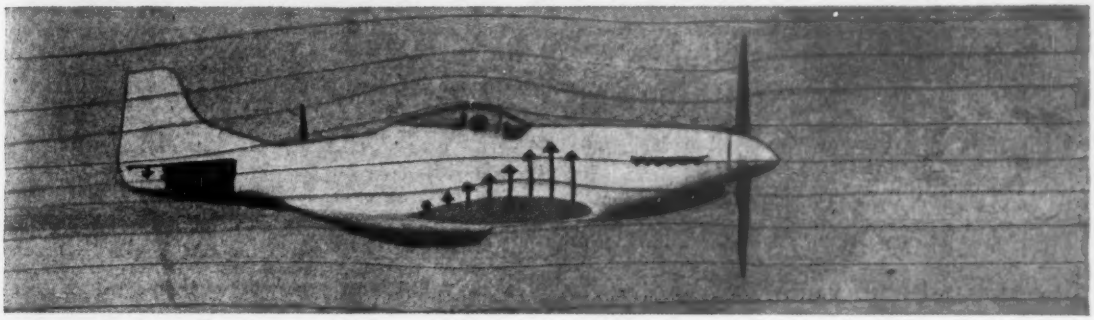

FIGURE IVc.

At normal speed a P-51 fighter aircraft travels forward smoothly. Lift (shown by arrows) is created by pressure underneath and suction on top of the wing as the air stream passes over it. Stabilizers at the tail give a balancing effect which the pilot is able to control. Airflow turbulence, indicated by the dappled streak, is not serious.

against the head-rest and to protect the face from blast. Practices are carried out in a similar type of seat and mechanism by Martin Baker on the ground with a ramp. The pupil is spontaneously pushed to the top of this ramp on pulling down the blind as in ejection.

In aircraft the depth of the fuselage limits the length of the "gun", hence the distance through which acceleration can be applied; and according to the Royal Air Force medical workers the maximum acceleration which is generally considered safe for the human body is roughly 20 to 25 "G". It means that the ejected pilot leaves the cockpit with a velocity of about 60 feet per second. For a given upward velocity of ejection the clearance over the tail unit becomes smaller as the aircraft speed increases. Thigh length must not exceed 25 inches for safety in some aircraft, and feet require to be drawn back before ejection.

A further restriction as far as the pilot is concerned is the rate at which the "G" is applied. According to some workers, if this rate exceeds 300 "G" per second the normal period of oscillation of the vertebral column (said to be about 12 to 14 cycles per second) is reinforced, and compression fractures of the vertebræ are liable to result. This is said to be possible even though the required maximum 25 "G" is not exceeded.

As the seat bearing the pilot leaves the aircraft, a long wire statis line, which runs from the back of the head-rest on the seat to a firm attachment on the floor of the aircraft, is pulled taut. This fires another smaller cartridge charge, which ejects a stabilizing drogue parachute from the back of the seat. The pilot then waits for stabilization by the drogue to occur before freeing himself from the seat and operating his ordinary parachute rip-cord.

Anxiety: Radio Telephone.

Flight in jet-propelled fast aircraft introduces a special anxiety problem owing to the comparatively short available period of flight. Consumption of fuel at low altitudes is tremendous and does not permit any dawdling on the return journey or searching for aerodromes. Rapid climb to altitude after take-off and completion of task is the usual procedure to use fuel most efficiently. Therefore constant radio telephone communication with ground staff in order to bring the aircraft back is essential, particularly in cloudy weather, and it is always an anxious time on the return journey until the pilot has effectively established such communication and is directed right through cloud layers to his field. The most anxious moments can exist if there is any failure of radio telephone communication in bad weather; thus a particular factor in morale and efficiency is introduced at the very end of the operational or other flight when the pilot is probably tired. The anxiety aspect here calls for constant watch on the part of squadron medical officers.

Navigators.

The role of the navigator in high-speed and altitude problems has become more and more important. The pilot requires quick calculations in order that plotted courses may be properly maintained. Radar and complex apparatus must be handled, interpreted and integrated into the flight plan.

The physiological problems of the navigator prompted the Royal Air Force to send a medical officer completely through the course to the standard of obtaining his navigator's "wings". Amongst the many problems on long flights is eye strain, owing to the fact that the navigator has to read maps, computors and radar screens at a

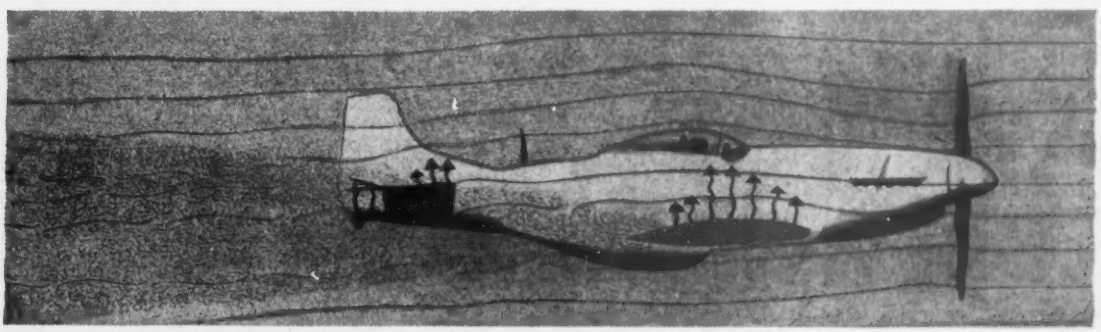

FIGURE IVd.

At dangerous speed, when the aircraft approaches the speed of sound and encounters compressibility effects, the flow of air speeds up and then abruptly slows down as it crosses the wing. Violent shock waves form, similar to those shown in Figure IVb. Lift is affected, and the tail is buffeted by the turbulent wake from the wing.

distance of about 12 inches. Many of his instruments are above his head, so that he is required to look upwards; this is very fatiguing, since the position is an unnatural one from which to make frequent visual observations.

In the past, lighting of navigator's cockpits and grouping of their dials were poorly done. However, this is receiving considerable attention now with a view to improving the work, visual tasks, interpretations and reaction procedures required of this important member of the crew.

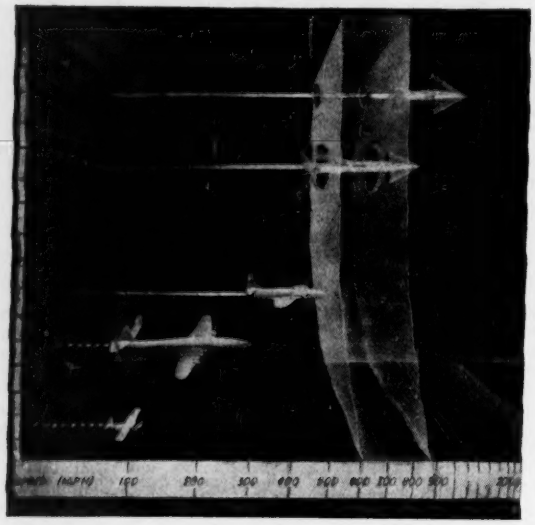

FIGURE V.

Reaction Time.

With the ever-increasing performance in aircraft man's reaction time is becoming a weak link in the chain of control performances. In particular, the period of optical perception and its significance in high-speed flying has become the earnest study of aviation medical workers. Strughold has indicated that a chain of latencies exists, starting with turning the head and eyes in order to observe the situation; then follow the latent periods in stimulation, perception and interpretation, followed by action. In this connexion Strughold indicates that the latent visual perception period alone is from 0·05 to 0·1 second. In supersonic speed at a Mach number of 3—that is, 1000 metres per second—we reach a situation of latency-induced anisochronia through a non-perceptual interval which he describes as representing, in this instance, "a kinetic distance scotoma of 100 metres"; that is, by the time a pilot perceived a certain object it could be 100 metres away, even behind him—in other words, he was seeing something after it had happened. This presents a problem to be faced.

Cockpit Layout.

Much work has been done in cockpit lighting and in the grouping of dials so that those more constantly looked at are grouped together; this saves the ocular fatigue required in moving the eyes from one extreme part of the panel to another.

Backward-facing Seats.

Extensive work both in England and in America has satisfied authorities that the backward-facing seat is necessary and effective in the reduction of many major injuries and deaths due to the rapid deceleration of an aircraft on crashing.

Distribution of the weight over a large area instead of over a small portion reduces the degree of injury and saves life, as has been now demonstrated experimentally and in practice. The throwing forward of people, causing them to strike skulls on projecting objects *et cetera*, is removed, and the strong back and stressed seats take the impact. Suitable stressing of the seats to withstand up to 12 "G" is being recommended.

Medical Standards for Service Flying.

Preselection of aircrew is continuing with methods involving medical and psychological interviews *et cetera*. High standards of visual acuity, ocular muscle balance and colour vision are retained as before. Auditory standards are being approached more practically by means of two particular tests: (i) the efficiency or articulation test, and (ii) the diagnostic test. In the former monosyllabic English words are used consisting of consonant-vowel-consonant. They are received through earphones with 160-decibel intensities of speech. The sounds, right or wrong, are then recorded in a background of 100-decibel noise of aircraft. Marks are given for interpretation of each right sound, not necessarily for right words. A pass is 60%. The diagnostic test is by pure tone audiometer signals of low intensity to test ability to hear signal "pips" as employed in groups—for example, two or three pips *et cetera*. These are recorded. A 20-decibel intensity level above threshold is allowed at each frequency. Ears are tested separately. Not more than a 20-decibel loss at 500, 1000, 2000 and 3000 cycles per second is permitted, and frequencies from 250 to 4000 cycles per second are recorded.

Cybernetics.

I mention the term "cybernetics", which is receiving prominence, particularly amongst the American aviation medical workers. Cybernetics is described as "the study of human control functions and the mechanical, electrical and chemical systems designed to replace them".

Man's problem is that his reaction time is becoming a weak link in the control system of ever-increasing fields of activity in the air. His "chains of latencies", to quote Strughold again, in all systems are becoming a hazard. Some authorities feel that the future problems will not be met by changing our ordinary physical standards; that is, we shall not employ only supermen, but there may be more careful selection of operational personnel, particularly in connexion with mental alertness, reaction time and ability to manipulate instruments skilfully. Campbell, the American aviation medicine worker, has indicated that we are now approaching human problems, with the expansion of flight into areas where there is no real precedent in human experience. However, as he points out, since the beginning of this century we have overcome seemingly impossible barriers—namely, the altitude barrier imposed by anoxia by using oxygen—and later we have beaten the decompression barrier by pressurization. "The sonic barrier may perhaps be said to be overcome by the new method of propulsion and new aircraft designs leaving considerable frontiers ahead of us". An interplanetary society already exists in some countries, and Armstrong, Haber and Strughold in the United States of America have recorded considered opinions on the matter at a panel meeting.

The conception of some is that perhaps man, using the studies of cybernetics and what is derived from them, will, by mechanical, electrical and chemical methods, by electrical calculating machines, automatic functioning devices *et cetera*, participate in flying further back in the chain of events, not necessarily right at the controls, but as a coordinator of the mechanical devices which, like the automatic pilot, determine within their mechanical ranges the balance and flight of the aircraft, informing him of various situations on which he makes his decision. However, there are no immediate obvious signs of drastic changes in medical requirements for air force personnel to meet these new problems. Apart from the minimum physical, auditory and ocular requirements *et cetera*, preselection, including numerous intelligence and aptitude reaction time aspects, is being stressed, and these are the subject of constant revision by medical, technical, flying training and operational authorities.

CONCLUSION.

The various industrial occupations and hazards met by ground staffs maintaining and servicing the modern aircraft are receiving considerable attention by the medical service, and this is also a contribution to efficiency and air safety.

I think we can say that aviation medicine workers abroad are in the forefront in tackling vigorously the great medical problems associated with the aeronautical engineering developments in the many aspects too numerous to mention tonight in this limited reference to these subjects.

ACKNOWLEDGEMENT.

I am indebted to the Director-General of Medical Services, Royal Air Force, and to medical officers of the Royal Air Force Medical Directorate and Institute of Aviation Medicine, Farnborough, for many of the data and references made tonight. Also I would pay tribute to the extremely fine research being carried out in the United States of America and Canada by workers in aviation medicine, from whom I have quoted earlier.

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PHENYLPYRUVIC OLIGOPHRENIA, WITH NOTES ON A NEW CASE AND A REPORT OF LABORATORY INVESTIGATIONS IN AN EARLIER CASE.

By S. J. CANTOR, D.P.M.,
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PHENYLPYRUVIC OLIGOPHRENIA is a disease in which mental deficiency is associated with various neurological signs, with certain physical abnormalities, and with metabolic errors evidenced by the presence of phenylpyruvic acid in the urine. The mental deficiency may be very slight or, on the other hand, gross idiocy may be present. The disease is rare. Nevertheless it has many features which make the investigation of the condition important.

Requirements of Phenylalanine.

The disease results from the inability of the body to make use of the essential amino acid, phenylalanine. This amino acid cannot be used by the body, presumably because of the absence of an enzyme which is necessary for the metabolism either of the amino acid itself or of its product hydroxy-phenylpyruvic acid. The disease is hereditary, being due in almost every instance to a recessive characteristic in both parents, neither of whom shows any sign of the disease. However, in one instance the characteristic has appeared in one parent, the characteristic apparently being a Mendelian dominant. Electroencephalograms of the parents may indicate the possibility that the disease is present in the latent form.

Eckhardt and Davidson have recently shown that the minimal daily requirement of *l*-phenylalanine necessary to maintain the nitrogen balance in man is approximately 1·9 grammes. The amino acid was given orally to human subjects who were in good health.

The fate of the various amino acids is determined by other factors besides ordinary body processes. Just as the quantity of various vitamins in the body is determined in part by the intestinal flora, so also does the same factor modify the amount of amino acids produced in the intestine and absorbed into the body. Beerstecher and Shive have studied biochemical transformations as determined by competitive bacterial growth competition. They suggest that *Escherichia coli* transforms tryptophane into phenylalanine.

Constancy of the Metabolic Error.

Borik and his associates investigated the levels of phenylalanine in the serum and cerebro-spinal fluid of patients suffering from phenylpyruvic mental deficiency. Quantitative investigations of the sum of phenylalanine and phenyllactic acid in the serum, and of phenylalanine in the cerebro-spinal fluid, were carried out on 18 fasting phenylpyruvic patients. The concentration of phenylalanine varied from 19 to 38 milligrammes per 100 millilitres of serum. The difference between the sum of the phenylalanine and phenyllactic acid on the one hand and phenylalanine alone on the other hand was very small, showing that only traces of the hydroxy-acid are circulating in the blood. This suggests a characteristic and relatively constant blood level of phenylalanine for each subject, especially as variations in the value in one subject were smaller than variations from patient to patient. No correlation has been found between the phenylalanine level and the degree of mental deficiency. The concentration of phenylalanine in the cerebro-spinal fluid has been found to vary from 6·1 to 8·3 milligrammes per 100 millilitres. The urinary excretion of phenylalanine and of its metabolites is secondary to the high blood concentration of the amino acid. The relative constancy of the level of phenylalanine in serum explains the relative constancy of the ratios of urinary phenyl compounds to urinary nitrogen, since the amount of the urinary output depends on the amount of phenylalanine circulating in the blood. From other experiments it is presumed that the non-utilization of phenylalanine in cases of phenylpyruvic oligophrenia leads to such a high level of amino acids in the renal glomerular filtrate that the tubules are unable to reabsorb it.

Excretion of Phenylalanine by Phenylpyruvics.

Jervis has studied the excretion of phenylalanine by phenylpyruvics, and he states that the urinary excretion of phenylalanine and its derivatives by 20 patients under varying dietary conditions gave interesting results. His patients ranged in age from two to forty-two years. The output of phenylalanine on normal institution diet was 20 to 50 milligrammes per gramme of total nitrogen in the urine; that of phenyllactic acid ranged from 41 to 91 milligrammes. The giving of a diet rich in protein followed by a diet of poor protein content to one patient showed that the amount of phenyl compounds excreted depends on the amount of proteins ingested. However, two other patients still excreted phenylalanine and its keto-acids and hydroxy-acids after ten days on a protein-free diet; so not all phenyl compounds are derived from dietary protein.

Ingestion of various amino acids, including glycine, glutamic acid, cystine and tyrosine, produced no change in the output of phenyl compounds. The ingestion of ten grammes of *d*-phenylalanine and of ten grammes of phenyl-

pyruvic acid by patients kept on a diet of constant nitrogen constant increased the excretion of all three phenyl compounds.

Amounts of phenylalanine in sweat, determined in ten patients, were somewhat higher than in normal individuals. Phenylpyruvic acid, which is not excreted in sweat by normal subjects, was found in values varying from six to 56 milligrammes per 100 millilitres. Phenyllactic acid was not found in measurable amounts.

Other Clinical Studies.

Mautner and Quinn have reported on their study of 29 phenylpyruvics encountered in Wrentham State School, Massachusetts. They have found the basal metabolic rate normal and they found no sign of hormonal disturbance. The administration of 15 grammes of tyrosine per day caused no change in somatic or mental behaviour. Electrocardiography revealed intraventricular block in many patients, due possibly to an abnormality in the conducting system or to an abnormal reaction of the heart muscle to stimuli.

Valerie Cowie in a recent article has ably summarized many of the recent findings. Her work indicates that the administration of tyrosine to very young phenylpyruvics may have some curative value; but more work along this line is needed. She notes that widely spaced incisor teeth are a common characteristic of the disease.

Neuropathology.

Alvord and his co-workers recently studied five cases of phenylpyruvic oligophrenia. The underlying process is believed to be a defect in the enzyme controlling the conversion of phenylalanine to tyrosine; hence there is a failure of protein metabolism. This may be the basis for defective myelinization of parts of the central nervous system, which was found in three patients in this series. Siblings, aged sixteen months and three and a half years, had decided lack of myelination of the optic, cortico-ponto-cerebellar and cortico-spinal systems. In one case the optic chiasm showed poor myelinization. No such changes were found in the other two adult patients. In all five there were gliosis and increased fat around blood vessels—changes which may be found in all cases of amentia. In one case there was a striking increase in astrocytes and an even more striking increase in microglia. In the two children there was a decrease in the Purkinje cells of the cerebellum, which was consistent with a developmental defect due to a metabolic disorder. It is possible that the retardation of myelinization may be in part responsible for the mental deficiency.

The Hereditary Factor.

In 1949 Cohen and Kozinn described a case of phenylpyruvic mental deficiency in a Jewish child. The special interest in this case lies in the fact that this is the first to be reported in a Jewish patient. In several hereditary diseases affecting the nervous system the first cases noted were among Jews, although subsquently it was found that non-Jews were also affected. In this case the reverse story was to be told. The patient was a boy, aged six years, whose development was retarded. He began to walk at nineteen months, and he did not speak until he was three years old. Examination revealed hyperactive deep reflexes, halting gait and hypotonia. His vocabulary was limited. His urine reacted to the ferric chloride test for the presence of phenylpyruvic acid, the green colour occurring when the chloride of iron solution was added. The father was in regular employment and was cooperative. The mother had no physical or mental disability. The parents were unrelated, but of pure Jewish descent. The authors postulate that in this case the father represented a *forme frustre* of phenylpyruvic oligophrenia and was of borderline intelligence.

It appears that in this case the father has transmitted the disease from a dominant Mendelian factor. There is, however, the slight possibility that the mother may have the condition in the latent form. It is noted that the terms "dominant" and "recessive" are relative and not absolute.

It is to be noted also that high-grade phenylpyruvics can be fertile, as Følllings, who discovered the disease in 1934, subsequently noted that a female phenylpyruvic was able to bear a child.

Result of an Australian Survey.

Communications received from several institutions in Victoria indicate that no other case of the disease has been found in this State. Dr. Patricia Kirton has sent the findings of a survey made at Stockton and Newcastle hospitals for mental defectives in New South Wales. These two hospitals harbour about 600 mental defectives. Twenty-three likely children were tested, and two gave a positive result, phenylpyruvic acid being found in the urine. Three further cases have since been found by Dr. Kirton.

Report of a Case.

Recently the writer has found a further case of the disease at the Sunbury Mental Hospital, the patient being a mentally defective woman, M.A.B., aged twenty-five years. Particulars of this patient are as follows.

The father is living, the mother is dead. The patient had been certified insane less than a year previously, it being noted in the certificates that she spoke only gibberish, and that she was unable to walk unaided. The condition had existed since birth. She was relatively clean in her habits; but she was unable to dress herself or to feed herself. She was unable to comprehend any but the most simple questions or directions. She was able to give her surname only. She was in the habit of swaying backwards and forwards, and less frequently from side to side. She was of good physique.

On examination of the patient, the heart and lungs were normal. No abnormality was found in the abdomen. Most of the reflexes, especially the knee jerks, were active. The plantar reflexes were flexor in type. She had a degree of incontinence of urine and fæces. She was unable to spell simple words or to add figures. A detailed examination revealed dark hair, grey irides, and a relatively fair, florid skin. The skin was slightly affected with sores in exposed parts. When sitting up in bed she was flexed somewhat forwards. Fine tremor of the hands and fingers was noted. She was resistive when being examined. The upper incisors were absent, presumably having been extracted. The lower incisor teeth were healthy and normally spaced. Her skin has not darkened from exposure to the sun; it only reddens. The breasts were well developed, but flabby.

This case of phenylpyruvic oligophrenia was detected by the general features. It was apparent that no stigmata of degeneration were present. In conjunction with the mental deficiency and the slight neurological signs, as well as the general behaviour, the clinical picture was complete. The diagnosis was confirmed by the finding of phenylpyruvic acid in the urine. The patient's father is dark-haired and brown-eyed, as are all relatives including the two sisters and the two brothers. No relatives, including sisters, brothers, cousins, uncles, aunts and grandparents, have come into the blue-eyed or fair-haired category. The mother, who was a twin, also had dark hair and brown eyes. No relative is mentally subnormal. The urine of the father and of the two sisters was examined; no specimens contained phenylpyruvic acid. The patient, whose mentality is low, never attended school.

Result of Further Investigations in the Case of J.C.P.

Further investigations on a previous patient, J.C.P., were carried out at the Royal Melbourne Hospital. (This case was reported in the issue of August 11, 1951, at page 190.)

Chromatographic examination of the urine revealed bands of aspartic acid, glycine, alanine, tyrosine, phenylalanine and proline. A glucose tolerance test resulted in the following figures: the fasting blood sugar content was 0·084 milligramme *per centum*; the blood sugar content half an hour after the oral ingestion of 50 grammes of glucose was 0·109 milligramme *per centum*; one hour after the ingestion of glucose, the blood sugar content was 0·156 milligramme *per centum*; after one and a half hours, 0·072 milligramme *per centum*; two hours after, 0·027 milligramme *per centum*; two and a half hours after, 0·085 milligramme *per centum*; three hours after, 0·085 milligramme *per centum*.

The cephalin flocculation test produced a negative result, although there was a trace of bile salts in the urine.

Psychiatric assessment showed that the patient was an imbecile (Binet-Terman test result, 34). Neurological assessment produced a normal result.

Electroencephalography produced an irregular record with considerable variations in frequency in the occipital region, although the dominant rhythm appeared to be in the α band. There was much artefact due to muscular movements. Some compound slow waves were present in various leads, but they appeared to be muscular artefacts, and there was no intrinsic abnormality in the record. The interpretation of the record was made by Dr. E. Graeme Robertson, honorary neurologist to the Royal Melbourne Hospital.

Examination of the cerebro-spinal fluid produced a normal result. No phenylalanine was detected in the fluid. An X-ray examination of the skull revealed no abnormality.

The Preservation of Urine Specimens.

Toluol is the antiseptic which has been usually advised as an addition to urine which has to be kept for some time before the ferric chloride test can be applied. As toluol may not be ordinarily available, the writer found that a small piece of thymol, which acts as a urinary antiseptic, could be used. Its presence in urine does not interfere with the ferric chloride test. In control tests, when thymol is used in normal urine, no green colour was produced when ferric chloride was added.

Discussion.

Since the disease phenylpyruvic oligophrenia was discovered by Følling in 1934 much work has been done to elucidate its nature. It appears that one or more enzymes, which enable the amino acid phenylalanine to be used by the body, are absent in this disease. Deficient myelinization may account in part for the mental and other manifestations. Phenylalanine is one of the ten essential amino acids. Wooley's streptogen, also present in proteins, is another factor which appears to be essential for optimum health.

It is possible that such an enzyme may be isolated from the liver or other organ of animals. Early and continued treatment, in such cases, would presumably be needed.

Summary.

The clinical features of a new case of phenylpyruvic oligophrenia, found in Victoria, have been described. Reference has been made to two new cases found in New South Wales. Details of the results of further investigations of an earlier case have been given. Thymol has been found to be a suitable antiseptic to preserve specimens of urine, which are to be tested later by the ferric chloride test. Some general notes abstracted from the recent literature on the subject have been included.

Acknowledgements.

Permission to include the results of the further investigations have been given by Dr. Ian Wood, of the Clinical Research Laboratories, Walter and Eliza Hall Institute of Medical Research, Royal Melbourne Hospital. These results include the findings of Dr. E. Graeme Robertson and of Dr. R. A. Joske, honorary out-patient physician to the Royal Melbourne Hospital, who supplied the report on J.C.P. The permission to include the result of these investigations is gratefully acknowledged. Permission to publish this article has been given by Dr. John Catarinich, Acting Director of Mental Hygiene, Victoria.

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STUDENT TRAINING IN THE PERSONAL RELATIONSHIPS BETWEEN DOCTOR AND PATIENT.

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It may be suggested that the function of a doctor is to restore and maintain his patients in a condition of physical and mental well-being which will enable their powers of adaptation to cope with the circumstances of their environment. To do this successfully the doctor requires a good working knowledge of the physical and psychological disorders of man, not as mutually exclusive lesions, but as interdependent states, each having an effect on the other. While the student receives intensive instruction in the organic lesions of man, little attention is paid to the strictly personal relationships on which rests the patient's response to the advice and treatment which are given to him. Admittedly a fortunate few have the ability to command the confidence of their patients, but for many this art must be acquired. Instead of relying on chance and time to mould the student's approach, it would appear more logical to formulate a planned system of training in doctor-patient relationships at the undergraduate level. This we believe is possible without making excessive demands on an already overburdened curriculum. While the main purpose of this paper is to offer suggestions in this connexion and to stimulate others more experienced than ourselves to do likewise, it will be necessary to preface our comments with a general statement of the problem.

The Problem.

In spite of the awakening interest in the personal relationships between doctor and patient, as evidenced by the recent discussions in England (Parkinson, 1951; Cameron, 1951) and America (Palfrey, 1951), an exact definition of what is meant by the term has been scrupulously avoided. For the purpose of this discussion we consider this relationship should be characterized by an harmonious emotional response arising from a feeling of security and confidence in the patient and a sense of achievement in the doctor. In attempting to understand what factors contribute towards this type of doctor-patient relationship, it is fundamental to study the attitude of the patient towards his illness, rather than, as others have suggested, towards his doctor. The patient is motivated principally by fear of the consequences of ill health, and seeks, by consultation with his doctor, the removal of the causes contributing towards this state of anxiety. In some instances patients visit their doctors to have confirmation of their ill health in order to gain power and privilege in their families. The doctor, on the other hand, desires the patient's cooperation, so that his competence and skill may be directed towards achieving a cure. The reconciliation of these two desires forms the basis of good doctor-patient association.

In reviewing the literature on this subject we find that the Inter-departmental Committee was aware of the fact that the standing of the doctor in the community and the quality of his service to the patient depended on a sound doctor-patient relationship. This committee, in the

Goodenough Report on Medical Schools (1944), suggested that "the aim of undergraduate education is to guide students to the development of those qualities of mind and character that will enable them, when qualified, to give maximum service to the community", and when the young doctor has qualified they also suggested that "he should possess a sympathetic understanding of people and their environment". However, further investigation showed that the General Medical Council, when revising the curriculum in 1947, in adopting some of the Goodenough Committee's recommendations made no provision to enable the student to gain a "sympathetic understanding of people and their environment", although this aspect of medicine was emphasized by the committee and by others, such as Ashford in "Trends in Medical Education" (1947). A similar oversight appears to exist in the Australian schools of medicine, although the Medical School of the University of Melbourne has taken some steps to correct this phase of instruction.

Gillespie (1944) pointed out that one-sixth of the patients attending Guy's Hospital were suffering from symptoms arising from psychological causes, and suggested that a good working knowledge of human nature and human beings in distress would go far towards bettering the management of the sick. According to Gillespie, the doctor is a symbol of mysterious power with a great capacity for allaying anxiety, and for that reason is in a position to cure many forms of functional illnesses by the power of suggestion alone. This is a debatable point; one would think that suggestion could be successful only when the cause was known, and the success of discovering causes of functional illness demands a sound doctor-patient relationship. Furthermore, one suspects that the enlightenment of the public by the lay Press on medical progress has removed much of the mystery which once surrounded the doctor in his citadel of higher knowledge. It is not unlikely that many a "digest" reader visits his doctor in order to obtain a course of therapy which the patient himself considers necessary, but which he is not legally qualified to prescribe. This loss of professional initiative (and respect) destroys the basis on which a sound doctor-patient relationship is founded, and in its place a commercial transaction is substituted. The student will witness the same sort of thing in the out-patient medical departments, when the "chronics" prescribe, through the resident medical officer, their "phenobarbs" or cough mixtures. In these, as well as in the certificate-signing visits, the doctor-patient relationship is, for practical purposes, non-existent.

In 1941, Brown, dealing with the attitudes of doctor and patient towards each other, concluded that a basic cause of conflict was one of finance—the doctor standing to gain from the patient's misfortunes. It may be pointed out that a patient's memory is apt to be short in regard to the success of treatment, but retentive on the matter of financial inconvenience that may have arisen in defraying the cost of the treatment. Thus the doctor is confronted with a fundamental principle of salesmanship—namely, that the buyer (that is, the patient) should feel that he has received value for the money expended, and preferably such good value that it could be regarded as a "bargain".

This raises a particularly difficult aspect of the patient-doctor relationship, for, in not having technical knowledge, the patient is likely in all sincerity to under-estimate the costliness of specialized treatment. In seeking a solution to this problem we feel that the doctor's training should enable him to explain the complexity of techniques in terms that are comprehensible to the layman; and secondly, when the cost of treatment is likely to be heavy, this should be indicated to the patient before he is committed to accept the liability. Thus while we have no doubt that medical fees may be an obstacle towards harmonious relationships, we cannot agree with Brown that they are all-important. Sensible handling can overcome this age-old problem, in defence of which Hippocrates said: "I urge you not to be too unkind but to consider carefully your patient's superabundance of means, sometimes giving your services for nothing calling to mind a previous benefaction or present satisfaction."

The Problem in the Clinical Examination.

If our contention is correct that a patient seeks medical advice to resolve his apparent physical complaint and inapparent mental distress, then the first and most important prerequisite is to gain the patient's confidence while taking the history. We should clearly recognize that a patient's history fulfils a dual function, in that it provides essential evidence for the doctor, and at the same time a release of tension for the patient. We should, therefore, conduct our inquiry so that both these objectives are satisfied. To this end it is advisable first to assess the patient as an individual by his appearance and spoken word, and then to use one's skill in directing the inquiry so that embarrassment, anxiety and conflict are avoided. A little time taken in discovering family background, occupation, hobbies and interests frequently uncovers important medical evidence and subtly eases the formality of the examination. When this point is reached, the patient will cooperate more freely and often volunteer information which might otherwise be withheld. Let us illustrate this in the following case history.

A rheumatic child, aged eight years, was referred to one of us as suffering from a possible recurrence of his condition on the evidence that his temperature was 100° F., and his mother stated that he was complaining of intermittent pains in the arms and legs. This little boy knew that he might be admitted to hospital or put to bed if the diagnosis was confirmed and naturally showed no enthusiasm for the interview. As an experiment we attempted to question the boy directly about his illness, but his answers were evasive and highly inconsistent with his own and his mother's remarks. In short, no real contact could be established because of the patient's suspicious attitude to his doctor, and there was obviously little professional satisfaction on our side. However, when we asked the lad how he was getting on at school, what games he played *et cetera*, it was soon learnt that he was an ardent "fan" of a wrestler, famous for what the small boy described as "the Indian death lock". To encourage the boy we professed ignorance of both the wrestler and his holds, and he then disclosed that he often wrestled with his elder brother—always trying the grip of his hero. "And when do you get the pains in your arms and legs, Eric?" "After trying the Indian death lock", replied the young patient. The clinical examination confirmed this history.

This rather trivial example shows the use that can be made of the doctor-patient relationship from the purely medical point of view.

In regard to the diagnosis one should be scrupulously honest in giving an opinion, but judgement must be used as to how much information is divulged. In cases with a bad prognosis it is probably better not to say anything which will precipitate a permanent anxiety state. In cases of a functional nature an explanation of the symptomatology will often help the patient to understand the basis of his complaint and hence master it. It is important also to consider the patient's reaction to a careless choice of words when describing the findings of the clinical examination. The unthinking use of emotionally charged words or phrases, such as "high blood pressure", "weak heart", "cancer", "consumption" *et cetera*, is best avoided, and such expressions as "raised blood pressure", "reduced cardiac capacity", "tumour", "tuberculosis" should be used instead. Although these alternatives are differences without distinction in the medical sense, there is little doubt that an innocent comment may have serious repercussions for the patient. It is better, therefore, to avoid the risk that such comments may turn malignant by exaggeration or distortion, thereby weakening the ties of the doctor-patient relationship.

Finally, we should also clearly realize that a trivial lesion from the medical point of view may assume an entirely different significance from the patient's viewpoint. It is, therefore, unwise to brush aside these minor ailments casually, but one should give them the same degree of importance as the patient himself attaches to them. A common example, in which the anxiety state is out of all proportion to the seriousness of the condition, is *acne rosacea* in the young adolescent. A reasoned explanation and a favourable prognosis are as important here as the treatment itself.

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The Problem in Hospital and in Practice.

Enough has been said to show how easy it is to make or break a successful doctor-patient relationship, and we may now consider how far hospital medicine can be used as a training ground in these personal relationships.

Hospital medicine, which constitutes the basis for undergraduate medical training, is essentially technical in nature, with an emphasis placed on the physical rather than on the social pathology of the illness. In the modern teaching hospital the student becomes aware chiefly of one aspect of the activities of these highly organized institutions—namely, those services which are directed towards the diagnosis and treatment of illness. Apart from the leavening influence of the work of almoners, occupational therapists, Red Cross assistants, the Church and even newspaper boys, of which the student sees very little, the atmosphere of a hospital can be dehumanizing for the patient, uprooted as he is from the comfortable security of his home or the familiar surroundings of his general practitioner's consulting room. He finds himself directed to an out-patient department or to a ward shared by other patients, attended by a continual "turnover" of different nurses, examined by many doctors and students whose names he does not even know, transported by the too-busy-to-talk attendants to pathology or X-ray departments or to operating theatres, and no one bothers to tell him what it is all about. The clinics, which are conducted at his bedside or in the out-patient department, resolve themselves into an examination of parts but not an examination of the person. The fact that the patient may be worried about his work and family is of little concern in clinical instruction, which finds its emphasis dictated by the requirements of the final examination and not by the subsequent needs of the practitioner in human relationships. This detachment of the patient from the security of his own social environment by the scientific efficiency of men and machines brings forth patient attitudes of self-pity, aggressiveness or passive indifference, and weakens the foundations on which personal contact between the doctor and his patient are erected.

From the point of view of training for general practice this type of experience is highly artificial and is vastly different in nature and degree from that which the graduate will encounter. In general practice trivial illnesses will be more frequently seen, and they do not demand the highly technical impersonal aids used in hospitals; medical logic (or reasoning) will not constitute the only guide for action, since decisions will have to be made not only in the interests of the patient, but also in the interests of the family. The success of these decisions depends much on the harmonious relationships between the doctor and the family group. It is therefore a matter of some importance to arouse an awareness of these differences in the student mind and to emphasize the severe limitations imposed by the hospital environment in any attempt towards training the student in the art of human relationships.

The Training of the Student.

We have now reached a point in our discussion where the training of a student in the doctor-patient relationship may be discussed. There are two extreme courses of action—either he may be taught in the patient's environment, as was the case when medical students served an apprenticeship with practising doctors, or the patient may be brought into the student's world, as happens in the hospital teaching of today. The former curriculum would be administratively unworkable and there would be the danger that the latest advances in scientific diagnosis and treatment might be overlooked; but against this the student, drawn into the patient's environment, would be strongly impressed by the great importance of the personal relationship between doctor and patient. On the other hand, the modern hospital teaching, with the accent on specialist treatment, lends itself to training in the science of medicine, but tends to lack the comprehensive approach for reasons already stated.

However, it seems eminently possible and desirable to combine the virtues of these two systems of training within the framework of our present medical curricula—namely, by grafting a restricted apprenticeship system onto our present courses of nosocomial instruction. Our first recommendation would be to suggest that the school of medicine appoint a panel of general practitioners who would be willing to allow students in their fifth year or final years to attend evening surgeries and visits and to assist in minor medical treatment. Already this has been initiated, on an experimental basis, in two teaching hospitals in the Melbourne school and also at Glasgow, Edinburgh and Sheffield. Each student would be expected to attend at least ten sessions. In addition to this form of apprenticeship, a second type should also be introduced as part of the course in public health or social medicine, in which students would be attached for two weeks during their long-term vacation to an approved first-aid centre in a large industrial undertaking. In each case the medical officers responsible for the supervision of the students' work should be given a clear direction of the objectives, one of which would be to gain a sympathetic understanding of people and their environment. In nature the two forms of apprenticeships would be strongly contrasted, one reflecting a form of private practice and the other representing a type of social medicine.

Our second recommendation would be to suggest that a number of clinical lessons should be conducted with the object of demonstrating the use and misuse of the doctor's position in achieving a desirable doctor-patient relationship. This training need not be a formal one and can be easily introduced into clinical demonstrations by conducting such demonstrations not only as lessons in morbid pathology, but also as exercises in observation (Fitts, 1943) and in doctor-patient relationship. The technique and importance of history taking, of conducting a clinical examination, and of explanation and advice to the patient, can be demonstrated with the clinical material available in the teaching hospital. Many clinicians already give such clinics, but the force of their teaching would be greatly strengthened with a slight shift in emphasis towards the art of human understanding and with discussion and criticism of the student's failings in this direction.

Thirdly, we might suggest that the study of psychology be given its proper emphasis in medical training, not as a course of formal lectures about the subject, as at present, and divorced from practice, but as an experimental subject. What the general practitioner did intuitively and sympathetically in 1851 is now understood as a system of exact experiments and concepts and should be made available to the student. In the preliminary year (first year) of the medical course in the University of Melbourne a course of psychology extending over the academic year could easily be included without placing excessive burdens on the student. This subject would serve not only as a training in the methods of scientific inquiry as applied to the study of human behaviour, but also as a basis for the more specialized medical aspects of the subject presented in the later years of the course.

Finally, we would suggest that a few formal lectures be given on the role and function of ancillary services (almoners, occupational therapists, Red Cross aids *et cetera*) and on the importance of interior decoration of hospitals and surgeries. This last feature falls outside the scope of formal medical instruction, but it is interesting to note in Australia and in Scandinavia that the most significant contributions in architecture of public nature are found in the modern hospitals of these countries. The architects have grasped the social significance of a pleasantly designed hospital and have done much to break down the fear of those who enter it. In a more modest way the design, furnishings and particularly colour schemes of waiting rooms and surgeries are important, and may be used to create a feeling of warmth and relaxation for what must be an unpleasant experience—namely, a visit to the doctor. We would therefore suggest that two lectures from an architect and specialist in interior design would be of value as part of a general medical training in human relationships.

In conclusion, it is admitted that opinions will differ as to what aspects of the doctor-patient relationship are important; but if we can succeed in gaining acceptance that a problem does exist and requires solution, then the writing of this paper has been amply justified.

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Reviews.

THE BASES OF HUMAN BEHAVIOUR.

PROFESSOR L. J. SAUL, of Pennsylvania School of Medicine, has written "The Bases of Human Behavior" as a text-book for the first-year medical student.[1] He believes that psychiatry should be introduced as a part of biology and physiology and stresses the view that psychology has its roots in the former. In his opinion it should be taught as a basic science on an equality with anatomy and physiology.

The practical work of the classes involves techniques such as the lie detector and films of the type of Wolf and Wolff on "Tom's stomach". The preface suggests that the course was a success. Many Australian psychiatrists believe that such an early presentation of psychodynamics is long overdue in this country. This book will provide more material for such a viewpoint.

The author is to be congratulated for a balanced entry into a difficult field. He has given Freud a major place in his work without creating an impression of over-emphasis. The place which emotion plays in the minds of men is well illustrated.

The introduction and opening chapter highlight the staggering problems of psychiatry. The physical man of the atom age lives emotionally in the stone age.

In the United States of America there are one million psychotics, possibly five million neurotics. Of every hundred school children, thirteen will have blighted lives through emotional immaturity, one will be criminal, and eight will have emotional breakdowns. The author adds to this the millions of alcoholics, delinquents and criminals, then for full measure reminds us of the millions of accidents, divorces and psychosomatic patients whose downfall is primarily due to psychological factors. With such a background the interest of the student should be vividly aroused.

The author then proceeds to show how emotional forces can not merely affect physiology, but also produce symptoms and tissue damage. He reminds us of John Hunter's remark that his life was at the mercy of any rascal who could make him angry. After this he draws the student's attention to the work of Liddell on animals, to Hans Selye on the general adaptation syndrome, to the classic work of Beamont on the stomach of Alexis St. Martin, and to the more modern work of Wolf and Wolff. Such evidence is objective and interesting.

The section on behaviour stresses the interplay and complexity of the emotions. He quotes Edward A. Robinson's delightful poem "Richard Cory". "He was a gentleman from sole to crown" and "rich, yes richer than a King", but in spite of this "one calm summer night, went home and put a bullet through his head".

The book contains case histories which show how terminal psychological states are determined. They are well chosen.

The author is a strong believer in the importance of child care and is emphatic that in the search for properly matured adults, the key lies in the balanced upbringing of children.

In order to outline the gross anatomy of mind, the author boldly introduces the concepts of the Ego, the Superego and the Id. Even the non-Freudian reader can browse over this section without boredom, though he may doubt the wisdom of using such controversial nomenclature.

The critic will find many passages in the book which denote over-simplification and dogmatism. This is inevitable in a text-book for first-year students. Even so, it may be questioned whether the average tiro could grasp the fundamentals so forcibly outlined. Is it possible that the Pennsylvanian has a special talent towards the psychological approach? Time will tell. In the meanwhile the author has done valuable pioneer service in a difficult field. His book can be read with profit by all who are interested in the psychological approach to human problems.

[1] "Bases of Human Behavior: A Biologic Approach to Psychiatry", by Leon J. Saul, M.D.; 1951. Philadelphia: J. B. Lippincott Company. Sydney: Angus and Robertson, Limited. 9¼" × 6¼", pp. 166, with eight illustrations. Price: 43s.

THE STORY OF SAINT LUKE'S HOSPITAL.

"THE STORY OF ST. LUKE'S HOSPITAL, 1750-1948", by Brigadier C. N. French, is an achievement of great merit.[1] It commences with a meeting on June 13, 1750, of six gentlemen of the city of London, who decided that Bethlem could not cater for all lunatics and that there was urgent need for another charity. By autumn of the same year £1200 had been promised and there were three trustees, a committee of 21 and a secretary. The new hospital was situated in Upper Moorfields and was named Saint Luke in June, 1751. The original rules and regulations were so carefully drawn up that they were hardly changed in one hundred years. From the outset the accent was laid on freedom from patronage and teaching on lunacy to medical men. The committee took their humanitarian duties very seriously, met weekly in coffee houses at their own expense, conserved the finances and acted with such prudence that eventually, when Saint Luke's collaborated with Middlesex Hospital, they had very considerable assets.

The merit of this book lies not merely in the account of "St. Luke" as an achievement, its removal to Old Street in 1787, its closure in 1916, its collaboration with the Middlesex Hospital and the creation of the Woodside Hospital near Highgate Woods in 1930. Later there is the decision to perpetuate the founders' wishes by the creation of a teaching unit through actual amalgamation with the Middlesex Hospital. Such matters make interesting reading. They impinge upon the main psychiatric authorities and trends in two centuries. Even Charles Dickens has an honourable mention; indeed a chapter is devoted almost entirely to his visit to the hospital on Boxing Day, 1851.

The book has a message beyond that of its immediate environment. Woven through the story is the tradition of humanitarian service in a voluntary capacity combined through two centuries. The governors and committee strove for ideals. It is true that often they erred on the side of conservatism, but can it be called an error if it results in survival and advancement? If other humanitarians wish to commence a new venture, it would pay them handsomely to dig deeply into this story of tradition and service, carried on by citizen, father and son through generations.

For Australians, the details so carefully collected by the author have a special significance. From 1811 to 1841 Dr. A. R. Sutherland was the consulting physician. He was highly respected and as late as 1840 took a strong stand against total non-restraint, as in certain cases it is essential for safety. He advocated that patients should be allowed out on leave and that they should have no baths, but occupation and amusements. It will be remembered that Mr. Thomas Digby, who was the first Superintendent of Tarban Creek, New South Wales, was trained by Dr. Sutherland at his private hospital in Chelsea. The story of Saint Luke's Hospital therefore supports the belief that our Australian tradition in psychiatry is based on sound humanitarian ideals. It has indeed a kinship with Saint Luke's.

From every point of view this well-written book is worthy of a place in psychiatric literature and on the shelves of anyone interested in its early history.

[1] "The Story of St. Luke's Hospital", by Brigadier C. N. French, C.M.G., C.B.E., with a foreword by Sir George Cockerill, C.B.; 1951. London: William Heinemann (Medical Books), Limited. 9" × 5½", pp. 220, with eight illustrations. Price: 8s. 6d.

The Medical Journal of Australia

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"NAPTA."

THE formation of an Australian Tuberculosis Association was first discussed in these pages on March 1, 1947. On that occasion the special discussions leading to the formation of such a body were reviewed, and the activities of the Federal Council of the British Medical Association in Australia in its efforts to secure the control of tuberculosis were mentioned. The Federal Council had discussed the views of Dr. D. R. W. Cowan, of Adelaide, in regard to the establishment of a Commonwealth tuberculosis campaign, and Sir Henry Newland, the president of the Council, endorsed Dr. Cowan's views and referred to the advisability of the establishment of a national association for the prevention of tuberculosis in Australia. The Australian Tuberculosis Association was actually formed on August 20, 1948. This was done at Perth when the Sixth Session of the Australasian Medical Congress (British Medical Association) was held in that city. Sir Henry Newland was elected president, and Dr. D. R. W. Cowan honorary secretary. The aim of the association (see THE MEDICAL JOURNAL OF AUSTRALIA, October 2, 1948, page 415) was stated to be "to assist in every way possible towards the eradication of tuberculosis by enlisting the cooperation of the people with the medical profession in disseminating knowledge concerning the causes, treatment and prevention of the disease". It was to engage in propaganda designed to secure increased efforts to combat tuberculosis, and in education by means of leaflets, films, radio and newspaper and other publicity. On November 3, 1950, Sir Henry Newland and Dr. D. R. W. Cowan wrote to this journal and reported progress. They stated that the Association had been duly formed and incorporated and that a division had been established, or was in the process of formation, in every State of the Commonwealth. Each State division, they explained, had control of its own funds and had the fullest measure of autonomy, provided only that its policy did not clash with that of the Parent Body. They appealed to members of the profession to join the Association and to take an active interest in the work of the State division.

At the annual meeting of the Council of the Association, held at Perth on October 15, 1951, certain things were done which should be made known to the profession. The name of the Association was changed. The subject was introduced by Sir Henry Newland, who pointed out that the name "Australian Tuberculosis Association" was misleading; the name suggested that it might be an association of tuberculous persons. The corresponding association in Great Britain was known as the "National Association for the Prevention of Tuberculosis", and he thought that the Australian body should be called "The National Association for the Prevention of Tuberculosis in Australia". A motion, of which he had given due notice, was seconded by Dr. Keith Barry, and carried. There can now be no doubt in the minds of the public about the character of the Association and its objects. The members of the medical profession will recognize that the Association is a semi-professional body—in other words, that members of the medical profession will have the cooperation of non-medical citizens in their efforts to combat tuberculosis. That this cooperation is valuable is beyond argument, and it is unfortunately true that there are medical men and women who are not prepared to devote time or energy to their share of the cooperation, and who, by their aloofness, give what is perhaps a false impression of their belief in its value. Having changed the name of the Association, the Council thought it advisable to make a restatement of its policy as set out as follows:

> This Association declares itself wholeheartedly in favour of the rational measures now being undertaken by official health departments for the prevention of tuberculosis in Australia, and especially—1. By measures designed to increase individual resistance against infection such as a high living standard and B.C.G. vaccination. 2. By measures designed to prevent or limit, as far as possible, the spread of infection, even if such measures involve compulsory examination or compulsory segregation of some persons, provided such measures are subject to proper legal safeguards.
>
> The Association considers that treatment and adequate economic relief should be available to all sufferers, but that treatment, either medical or surgical, should not be given except with the sufferer's consent.

In the carrying-out of these objects there will doubtless be occasions and discussions in which the non-medical members of the Association will not be qualified to take a part. These occasions and discussions have been provided for by the formation of a medical section of the Association. A constitution of this medical section was drawn up and adopted. Several objects of the section are stated. The first two are the most important: (*a*) To be responsible for the medical activities of the Association. (*b*) To act in an advisory capacity to the Council of the Association in all medical and associated scientific activities.

Among the matters dealt with by the Council was the question of publicity. Letters were received from the Australian Broadcasting Commission and from the Federal Council of the British Medical Association in Australia offering full cooperation in extending public health talks particularly in relation to tuberculosis. A suggestion had been made that the cooperation of the Postmaster-General should be secured in the sale of seals over the counter at post offices. The Postmaster-General had explained the difficulties associated with such a suggestion. A sample of a greeting telegram form used in Sweden and in other countries was shown, and the secretary was directed to

make a proper approach to the postal authorities in Australia to ascertain whether they could adopt this practice. The Council decided to print a number of standard posters which had been approved by the executive and to distribute these between the States on a *per capita* basis. It was also reported that a large quantity of valuable printed matter had been presented to the Association by the National Tuberculosis Association of America. Here it is of interest to note that the Life Offices Association of Australasia has promised to give full cooperation in the distribution of leaflets throughout the Commonwealth. It was stated also that the Life Offices would assist in the preparation and production of such booklets. The Council discussed the supply of B.C.G. vaccine. It will be remembered that this matter was brought before the last meeting of the Federal Council of the British Medical Association in Australia. It was stated at the meeting of the Federal Council that an official reply had been received from the department to the effect that practitioners who wished to use B.C.G. vaccine should be specially trained for the purpose. The Federal Council's representative on the National Health and Medical Research Council stated that the question had been raised at a meeting of that body and that it had been suggested that practitioners might use the vaccine if they had received some preliminary instruction from a member of the Department of Health. The Federal Council resolved to ask the Minister for Health if B.C.G. vaccine could be made available for use by private practitioners. The matter was brought to the notice of the Federal Council by the Tasmanian representative. It was the Tasmanian representative who raised the question with the National Association for the Prevention of Tuberculosis in Australia. It was pointed out that the restriction on the use of B.C.G. vaccine had the effect of lessening cooperation between the practising members of the medical profession and officers of public health departments. The Association resolved to urge upon the appropriate authorities that B.C.G. vaccine should be made more readily available for use by private and "approved" practitioners. As an indication that the Association is already known beyond the confines of the Commonwealth, it may be pointed out that a letter was received from the Anti-Tuberculosis Association of Singapore, asking for assistance to secure the services of a skilled radiologist. The Singapore Association is a voluntary body, and "NAPTA" (as we may well call it) decided to give what assistance it could.

This short account of the activities of the National Association for the Prevention of Tuberculosis in Australia should impress readers of this journal with the fact that the movement started in Perth after the Congress in 1948 is alive, and is attempting to fulfil its chosen destiny. Those who have it in their power to further the movement will surely do so. It should perhaps be noted that at the recent meeting in October, Sir Henry Newland resigned the presidency. He had had the satisfaction of fathering an association whose establishment he supported in the Federal Council some years ago, and of seeing the name by which he then spoke of it adopted. His successor in office is Dr. Keith Barry. His association with the Australian Broadcasting Commission will be valuable to the body over which he will preside. The Australian Broadcasting Commission has over and over again manifested its concern for the public welfare and its interest in furthering the aims of preventive medicine. We may be certain that Dr. Barry will stimulate this interest, and there is no doubt that he will have the confidence and support of the practising profession in the Commonwealth.

Current Comment.

A PSYCHIATRIC EVALUATION OF PSYCHOSURGERY.

AT the clinical congress of the American College of Surgeons in Boston during October, 1950, a special symposium was presented on the evaluation of the results of surgical procedures undertaken for the relief of psychoses. Six psychiatrists, each an authority on some particular aspect of the subject, were invited by the surgeons to be the principal collaborators in the symposium. Their reports, which have now been published,[1] provide a concise summary of the present position from the psychiatrist's point of view. The principles governing the selection of patients for psychosurgery were considered by L. B. Kalinowsky. His opening statement is important—namely, that brain surgery in psychiatric disorders is no specific means of treatment of any particular disease; it is applicable in a great variety of conditions, because it decreases the emotional impact of many different symptoms. The broad indications for its use are summed up in three sentences: The common feature of all psychosurgical procedures is the interruption of frontal lobe fibres, the resultant reduction in functioning frontal lobe tissue diminishing primarily the patient's anxiety; anxiety is a symptom common to many different psychiatric conditions; therefore the indications for psychosurgery are manifold. However, the essentially symptomatic value of psychosurgery on the one hand and certain unpleasant personality changes associated with frontal lobe surgery on the other hand make it necessary to limit the operative procedures to patients who do not respond to any other type of therapy. The selection of patients for surgery is an extremely responsible task, for which the psychiatrist rather than the surgeon is responsible, though both should understand just what is involved. Kalinowsky points out that patients suffering from *dementia præcox* or schizophrenia form the largest group in any mental hospital, and although they do not yield the most convincing results after psychosurgery, they will continue to be the most important group for such treatment, because other methods of treatment available for the relief of schizophrenia are inadequate. Before surgery is considered they should be subjected to the so-called shock (insulin coma and electroconvulsive) therapy. In cases of full remission under any type of shock therapy, but with later relapse, another course, preferably of combined insulin-convulsive treatment, should be instituted before lobotomy is considered. The psychiatrist should be reluctant to recommend surgery for patients who have relapsed only after a long and satisfactory remission. However, when repeated remissions obtained after shock therapy are not only short but also poor in quality, early psychosurgery is fully justified. It is to be noted that there is no evidence that previous shock treatments add to the hazards of surgery. Kalinowsky goes on to elaborate the results likely to be obtained in various subgroups of schizophrenia, but we need not follow him into this. Turning to the group of patients suffering from manic-depressive psychoses, he points out that these will rarely be subjected to psychosurgery because they respond well to electric shock, even if they have repeated episodes. He comments (and the sentiment is entirely laudable): "We are disinclined to try an operation which leaves lasting scars on the personality." He adopts the same attitude with regard to patients suffering from involutional melancholia, who nearly always respond to electric shock therapy. Some patients suffering from involutional psychosis with paranoid characteristics may

[1] *Surgery, Gynecology and Obstetrics*, May, 1951.

be candidates for surgery, but intensive shock therapy should first be tried. Hypochondriacs, patients suffering from characteristic somatic delusions, who make life miserable for themselves and for those around them, are regarded as "excellent risks" for psychosurgery; electro-convulsive therapy should be tried, but the response is usually poor. Mental defectives, epileptics and some others have been operated upon occasionally to correct their aggressive behaviour, but the results of surgery for psychopaths, homosexuals and criminals are not promising, as frontal lobe surgery does not remove, but rather emphasizes, bad character traits. Kalinowsky states that patients with psychoneurosis offer by far the best promise of a favourable outcome from psychosurgery, but the side-effects of operation are of major importance. For them psychotherapy is the treatment of choice and should be tried skilfully and consistently. Shock therapy is seldom indicated. Less radical psychosurgical procedures should be considered, and these, according to Kalinowsky, are almost always successful, even for those patients who have types of neurosis most resistant to treatment. He considers that if patients with severe neurosis, such as obsessive compulsive neurosis, have been prevented for years from leading normal lives on account of their symptoms, surgery is indicated.

Kalinowsky's paper is the one of most general interest in the symposium, covering as it does the proper selection of patients for psychosurgery. This is, he points out, one essential to success. A second essential is the selection of the correct procedure for the individual patient, and it is with the various procedures that are in use that the remaining five papers are concerned.

The question of lobotomy is discussed by Walter Freeman, who, with J. W. Watts, is well known for his experience with this operation. In particular he compares prefrontal lobotomy, which up to 1948 he and Watts had performed in 702 cases, and transorbital lobotomy, which they have preferred since and have used on some 500 occasions. From his experience Freeman is satisfied that transorbital lobotomy is safer and, because of its greater technical simplicity, far more available than prefrontal lobotomy, and that the two procedures are about equally effective. The results in terms of social effectiveness are not quite so good in the *dementia præcox* group after transorbital lobotomy as they are after prefrontal lobotomy, but the disastrous effects of major lobotomy in cases of psychoneurosis are almost absent after transorbital lobotomy. The over-all picture is that 68% of patients are able to live outside of institutions after transorbital lobotomy, as compared with 70% after prefrontal lobotomy. Freeman believes that transorbital lobotomy can replace prefrontal lobotomy in all cases except those in which patients show extreme and prolonged violence and for psychotic children. In both these cases maximal operation is the only effective procedure, and necessarily leads to a rather vegetative condition.

A further group of results of lobotomy carried out on some 550 patients is reported by Harry C. Solomon. He describes these results as relatively satisfactory, real improvement in behaviour resulting in most cases. In at least 40% of cases life outside the institution has been possible, and about one-half of this number of patients have become relatively self-supporting. Solomon points out that the procedure should properly be reserved for patients who have little chance of recovery or of decided improvement by any other available procedure or by the mere lapse of time alone. He presents for comparison the results following three types of surgery—namely, the standard bilateral, bimedial and unilateral operations. The bimedial procedure is similar to the standard bilateral, with the difference that only the medial portion of the frontal lobes is cut; the unilateral is carried out on only one side. Solomon agrees that the number of patients is too small to allow definite conclusions, but results from the bimedial method appear to be at least as satisfactory as those from the standard techniques.

Topectomy, which is discussed by Paul H. Hoch, is a fractional ablation of the frontal lobe cortex, the resection involving only the grey matter. The results presented are based on experience with 105 patients, mainly schizophrenics. All patients had been ill for several years before the operation and had received shock treatment, psychotherapy or both. Hoch states that deterioration is a formidable barrier to good improvement, but for non-deteriorated schizophrenic patients, especially those with obsessive and phobic symptomatology, topectomy is quite effective. It is considered that the results would be much better if the operation could be carried out on schizophrenic patients when they have failed with other forms of treatment but have not yet reached the stage of severe deterioration. Very aggressive patients seem to respond better to lobotomy than to topectomy, but otherwise the results from topectomy and lobotomy appear to be similar. However, the clinical impression so far is that pronounced alterations in personality, especially the well-known apathy, complacency and emotional dulling associated with lobotomy, do not occur so frequently and persistently with topectomy.

Another operation aimed at the avoidance of this personality blunting is selective cortical undercutting. This is described by E. K. Wilk as a method of functionally and anatomically isolating various areas of the frontal cortex with preservation of its own and adjacent blood supply. A line of cleavage is made with a brain spatula and fine suction tube at the relatively avascular junction of grey and white matter, with resultant interruption of long and short association fibres to the thalamus and elsewhere. It has been carried out in the superior, the orbital and the medial surfaces. Wilk's paper presents the psychiatric end-results of the operation in 150 cases. These approximated those of a standard control lobotomy group, in spite of the fact that undercutting operations interrupt only one-third the amount of cortex interrupted by the standard procedure. However, it seems that selective fractional undercutting causes far less personality deficit than does the complete lobotomy procedure. Undercutting of the orbital surface appears to cause the least change in personality of all operations. Undercutting of the superior surface causes an appreciable but temporary blunting and apathy of personality, similar to, but much less in degree than, that following standard lobotomy. In view of the almost complete absence of personality change, Wilk suggests that undercutting of the orbital surface may be the ideal operation for psychoneuroses and milder mood disturbances. Undercutting of the superior surface or of the orbital surface is recommended for the schizophrenic and severe affective psychoses. Pain, if accompanied by addiction, psychalgia or excessive anxiety, responds well to undercutting of the superior surface.

Various types of thalamotomy are discussed by E. A. Spiegel and H. Freed. Their small series of 56 cases does not permit of conclusive quantitative evaluation of the results, but these results are qualitatively similar to those obtained with the various frontal lobe operations—namely, relief from tension and anxiety states, obsessive thinking, diminution or elimination of agitation, aggressiveness and compulsive behaviour. The emotional reaction to hallucinations and delusions may be reduced, and the symptoms may disappear. Patients successfully operated upon are less upset by emotionally charged situations. Most of the patients were suffering from chronic schizophrenia, manic-depressive or involutional psychosis or severe psychoneurosis. Undesirable side-effects appeared to be less than those following operations on the frontal lobes. There were transient changes, but undesirable effects of long duration appeared in single instances only. Post-operative epilepsy, which may occur in a considerable percentage of cases after operations involving the cortex, was practically absent after thalamotomy. The procedure is technically more formidable than some others—for example, transorbital leucotomy; but Spiegel and Freed consider that it is worth the effort, as it may produce beneficial effects with minimal neurological and psychiatric side-effects. In addition, results so far suggest that at least in some cases thalamic procedures may be of therapeutic benefit to patients who were not, or were only temporarily, improved by frontal lobe operations.

Abstracts from Medical Literature.

BACTERIOLOGY AND IMMUNOLOGY.

Penicillin and the Tubercle Bacillus.

C. N. ILAND AND S. BAINES (*The Journal of Pathology and Bacteriology*, July, 1949) have studied the effect of penicillin on the tubercle bacillus and demonstrated a tubercle penicillinase. It was demonstrated that frequent opening of liquid cultures improved the rate of growth of a strain known as "418". Cultures in which the level of penicillin was checked as five units per millilitre were tested for the rate of disappearance of penicillin, and it was found that this occurred so rapidly—within two hours—as to suggest enzyme activity. Cell-free culture fluid was tested and found to destroy penicillin; the ability to do so was removed by treating the fluid at 57° C. for one hour, or by filtering. The optimum pH for the activity of the enzyme was 6·0. The enzyme was not particularly stable, and could be obtained better from old cultures in which some lysis had occurred than from young cultures.

Coxsackie Virus and Experimental Poliomyelitis.

G. DALLDORF (*The Journal of Experimental Medicine*, July, 1951) has demonstrated the sparing effect of Coxsackie virus infection on experimental poliomyelitis. He states that he worked with Lansing poliomyelitis virus, which was given into the brain, and with the "Nancy" strain of Coxsackie virus, which was thought to be of relatively low virulence, given either subcutaneously or intraperitoneally. The mice present differing clinical pictures to each virus alone: Lansing virus causes sudden flaccid paralysis in a previously sleek mouse; the Coxsackie virus delays growth, ruffles the coat and produces tremors. Three groups of mice, aged five, nine and thirteen days, were infected with Coxsackie virus, and later given a dose of poliomyelitis virus; control groups infected with either virus alone were included. Of poliomyelitis controls 97% died, and of Coxsackie controls 70% died. Of the young five day mice, 51% died, while of the nine to thirteen day mice, 40% were not paralysed, although they ultimately died of the Coxsackie virus infection. The author states that he detected a sparing effect, manifest by decreased amount of paralysis, prolongation of the poliomyelitis, and survival of an occasional mouse. He discusses the possible application of this finding to human disease.

Lymphoid Lesions in Poliomyelitis.

S. C. SOMMERS, JOAN C. WILSON AND F. W. HARTMAN (*The Journal of Experimental Medicine*, May, 1951) have examined lymphoid lesions in cases of poliomyelitis. They state that 50 autopsies, carried out on subjects of fatal human poliomyelitis, showed frequent examples of congestion and hyperplastic inflammatory lesions in Peyer's patches, mesenteric nodes and spleen, especially in children who had died rapidly of bulbar paralysis. In five instances, careful examination revealed structures which were described as intranuclear inclusion bodies at a magnification of 800 times. A series of mice inoculated with "M.E.F.", a mouse-adapted strain of human poliomyelitis, were then investigated. This strain was highly fatal on intracerebral inoculation, all mice dying in two to seventeen days, with maximum incidence of paralysis on the sixth day; but intraperitoneal inoculation did not kill more than 8% of animals. Measures were taken to cause lymphoid damage, such as irradiation of the whole mouse and administration of aminopterin and of ACTH. All three measures caused increased incidence of poliomyelitis after intraperitoneal injection of virus. The intracerebral injection of corn starch was also part of the preparation of the animal. Administration of virus by the oral route in combination with these procedures did not produce poliomyelitis in the mice.

Inherited Traits of Hæmophilus Influenzæ.

HATTIE E. ALEXANDER AND GRACE LEIDY (*The Journal of Experimental Medicine*, April, 1951) have studied the determination of inherited traits of *Hæmophilus influenzæ* by desoxyribonucleic acid fractions from type-specific cells. They state that smooth strains of *Hæmophilus influenzæ* are iridescent in culture and show capsular swelling in the type-specific antiserum. Rough strains grow non-iridescent and opaque colonies, and do not show capsular swelling. Large amounts of smooth strains were grown on Levinthal agar, and the bacilli frozen and thawed, in order to lyse them. From the lysate was prepared a crude substance containing desoxyribonucleic acid as indicated by the Dische test and the Stumpf reaction. These "transforming principles" were added in small amounts to Levinthal broth containing a 1:50 dilution of the homologous antiserum and a measured inoculum of the rough strain being tested. It was found that rough strains of all six types could be transformed into a different type by means of the transforming principle from that type. Rough cells of types *b* and *d* were readily transformed, and it was thought that this might be due to a larger number of susceptible cells in the inoculum. That desoxyribonucleic acid was the agent was proved by the addition of a desoxyribonuclease to control preparations when the cells remained in the original rough form. It was also shown that the change takes place very rapidly, and in an environment which does not permit cell multiplication.

The Use of Gastric Mucin to Lower Resistance of Laboratory Animals to Systemic Fungous Infections.

R. E. STRAUSS AND A. M. KLIGMAN (*The Journal of Infectious Diseases*, March-April, 1951) have studied the use of gastric mucin to lower resistance of laboratory animals to systemic fungous infections. They used strains of fungi grown on appropriate media, washed and suspended in either 5% gastric mucin or normal saline solution, and the tests were performed by intraperitoneal inoculation of 0·5 millilitre of suspension into young male Swiss mice. The authors state that the mucin alone injected into the animals produced no changes of any pronounced degree, and the fungi suspended in saline produced no mortality even when the suspension was 10% by volume; whereas when the fungi were suspended in mucin, a concentration of 2% was sufficient to produce a high mortality after ten days. Some 15 different types of fungi were examined, and with 13 of them some mice died after receiving the organisms suspended in mucin. *Nocardia asteroides* was extensively studied, and one strain, which in saline failed to kill any control mice, killed 17 of 18 mice in 2·5% suspension in mucin. Similarly, *Candida albicans* killed 17 of 18 mice in 0·2% suspension in mucin, but none of the controls. The results with *Actinomyces bovis* were not so satisfactory, though two of eighteen mice died after receiving 2% suspension of organisms in mucin. An attempt was made to apply this technique to infections of fungi on the chorio-allantoic membrane, but no alteration of any kind from the controls could be detected.

Mice, the Pathogenesis of Tuberculosis and Chemotherapeutic Tests.

G. T. STEWART (*The British Journal of Experimental Pathology*, February, 1950) has studied the pathogenesis of tuberculosis in mice infected intravenously with human tubercle bacilli and the use of mice in chemotherapeutic tests. He used 0·75 milligramme of bacilli of strain 905 suspended in distilled water. The course of the untreated disease averaged twenty-four days till death, and the lesions seen at autopsy were concentrated in the lungs. A method of scoring was evolved in order to assess the lesions in a group of animals. Histological examination and relative concentration of bacilli were included in the factors assessed. A group of mice were given fractions of the standard dose and were found to survive longer and to develop a different type of lesion, necrosis being replaced by proliferation. Variation of lesions with the 0·75 milligramme dose was minimal. The author discusses this method in testing or "screening" groups of substances likely to be of therapeutic usefulness, and warns of the difficulty of applying the results immediately to the human disease.

Experimental Staphylococcal Infections in Mice.

R. H. GORRILL (*The British Journal of Experimental Pathology*, April, 1951) has studied experimental staphylococcal infections in mice. He states that the work developed from the observation that many samples of mouse plasma could be clotted by staphylococcal coagulase, and that mouse plasma presumably contained the activator substance for the reaction. Mice were inoculated intravenously through a tail vein, with 0·1 millilitre of an overnight culture of the staphylococci being tested. Twenty strains of organism producing coagulase produced death of the mice at varying periods up to ten days; the characteristic finding was multiple abscesses in the kidneys, from which the staphylococci could easily be recovered. Eight strains of coagulase-negative staphylococci did not produce death or characteristic lesions, although when the animals were sacrificed in a few instances, the organisms could be recovered on culture. The author suggests that the

mouse might serve as a test animal for pathogenicity, and also be of use in the assay of antibiotics.

Diphtheria-Like Organisms and Sore Throat.

R. SAXHOLM (*The Journal of Pathology and Bacteriology*, April, 1951) has studied toxin-producing diphtheria-like organisms isolated from patients with sore throat. The organisms were obtained from swabs sent for examination for diphtheria bacilli, from patients who had membranous exudate on the tonsils and fever, and in a small number of cases from carriers. Several of the patients had been immunized with diphtheria toxoid. The morphology of the organisms varied from rods to almost round forms, the arrangement varied, and granules were present in a proportion of the organisms. They were Gram-positive, and the granules metachromatic. The colonies on blood agar were yellowish-white and produced partial hæmolysis. In broth, a pellicle was produced, and on tellurite medium, colonies resembling the *gravis* strain of diphtheria organism were produced. Glucose, dextrin and starch were fermented, gelatin was liquefied, and urea was decomposed. The plate test for toxin production, by incorporation of antitoxin in the medium, showed that toxin was produced similarly to that of the Park-Williams 8 strain of diphtheria organism. Toxin filtrates were prepared from these organisms and from Park-Williams 8 diphtheria organism and injected into guinea-pigs; both sets of animals died, while the controls, which were also given diphtheria antitoxin, survived. Intradermal injection of the toxin as compared with diphtheria toxin showed similarities, but diphtheria antitoxin did not completely protect from the effects of the filtrate from the new organisms. The author discusses the similarities and differences between the organisms, and the difficulties in diagnosing them and naming them. He comments on the fact that there was little diphtheria in the highly immunized population from which these organisms were isolated.

HYGIENE.

The Theory of Amœbic Surveys.

H. O. LANCASTER (*The Journal of Hygiene*, September, 1950) states that he has considered a problem that arises in every type of survey in which the number of persons suffering from or carriers of a certain disease in a population is estimated by a method which cannot reveal every affected person or carrier infallibly at a single examination. The problem is most often studied in relation to amœbic surveys, but it arises in ordinary clinical medicine in the form of the question: "How many examinations must be carried out in order to ensure that this patient is not suffering from amœbiasis?" The probability of obtaining a positive finding at any examination is defined as the demonstrability. The mean demonstrability of a group may also be defined. In the usual type of survey, a number of patients are found to be "positive" at the first examination and they are not examined further. The remainder are examined and more "positives" are found at the second examination, and so on. The problem is: How many "positives" would be found if this process was to be continued indefinitely? An inequality for the lower limit of this number is derived by the consideration that in general the cases with the higher demonstrability will be removed at the earlier examinations, and so the mean demonstrability of the remainder after n examinations will tend to fall. This result is also derived by mathematical considerations. The author concludes from the results presented in this paper that most of the estimates of the carrier rate in various populations for amœbæ are too low.

The Encephalitis Problem in the United States.

W. REEVES (*American Journal of Public Health and The Nation's Health*, June, 1951) reviews, from the public health viewpoint, the present position in North America of the virus encephalitis infections that are spread by arthropod vectors. Three specific infections, Western equine, Eastern equine, and St. Louis encephalitis, are considered. The author states that the known distribution of these diseases and the number of recognized cases indicate that these infections are widespread in North America, but as yet they provide a relatively minor public health problem. Certain factors, such as the occasional major epidemics observed, widespread epizootics in horses, limited demonstration of control methods, and possible future changes in the balance of environmental factors, have led to the belief that these diseases may occur in epidemic form in the future. A consideration of the epidemiology indicates a complicated infection chain, which involves birds as hosts and mosquitoes as vectors, with mites or some other unknown factor serving as a long-term reservoir. The inapparent infection in the host becomes a public health problem when the mosquito vector transfers the virus to clinically susceptible human hosts. The author considers that, in those areas in which necessary studies have been made, a control programme based on protection from the mosquito vector would be the most effective. In a recognized epidemic of any of these three diseases, he recommends a control programme based on individual personal protection from mosquitoes and, if practicable, control of the specific vector mosquito. In other areas control will depend on the extent and nature of the existing problem. The author suggests that public health departments should follow closely the results of research work now in progress.

Multiphasic Health Examinations.

L. SCHEELE (*American Journal of Public Health and The Nation's Health*, June, 1951) discusses the value of multiphasic health examinations in public health practice. He states that the idea developed from mass laboratory testing in exposed population groups as a means of controlling epidemics. Health inspections of groups such as school children and industrial workers have been carried out for many years. Multiphasic health examinations imply the search for disease in large general population groups. The examinations are conducted in cooperation with State or local medical societies. Those examined present themselves voluntarily. The procedure adopted combines various techniques into a single operation which requires a minimum of professional personnel. The examinations may take the form of either mass screening for a number of specific diseases or mass health examinations. The specificity and sensitivity of some of the screening devices are still low, and some yield "false positive" results. Mass cytological tests for cancer are still in the experimental stage. The author considers that there is still a need for more effective diagnostic techniques adaptable to mass application, and that there is a need for research in methods of organization, technical operation and statistical control. He also considers that if multiphasic health examinations are directed towards the raising of the level of preventive medicine in the community, they can be a powerful force for integrating preventive and curative medical services in the solution of many public health problems.

Ultra-Violet Light and Upper Respiratory Tract Infections.

A. GELPERIN, M. GRANOFF AND J. LINDE (*American Journal of Public Health and The Nation's Health*, July, 1951) state that they found that the major cause of absenteeism from school for three or more consecutive days among New Haven school children was respiratory tract infections. The effect was then investigated of ultra-violet light irradiation of the upper air in school rooms on the incidence of these infections. No cases of conjunctivitis, erythema or desquamation in teachers or pupils were noticed during the investigation. The upper air in the class rooms of eight different schools was irradiated with ultra-violet light. In six of these, half of the rooms were irradiated with ultra-violet light. The other half were used as controls, being "treated" with the blue light from fluorescent tubes, which contained no rays in the ultra-violet spectrum. Additional control data were obtained from 28 schools not irradiated. Tabulation of absence for three or more school days due to respiratory tract infections during the four and a half months' period of irradiation in the six internally controlled schools showed no statistically significant effect from this procedure. No change was noted in the two schools with all classrooms irradiated as compared with control schools in their respective socio-economic groups. The crude data on populations in all eight experimental schools, when compared with those for all untreated schools in the same economic strata, for periods prior and during irradiation, showed variable effects on absentee rates due to respiratory tract infections. A statistically significant difference was observed when the data were recalculated on the basis of a standard population; however, the reduction in actual number of cases was too small to be of practical significance. Information on the natural variation in incidence of respiratory tract diseases for individual schools as well as socio-economic groups is presented and discussed. The authors state that effects on the incidence of measles, chickenpox and mumps could not be evaluated.

Special Articles for the Clinician.

(CONTRIBUTED BY REQUEST.)

III.

PULMONARY TUBERCULOSIS IN GENERAL PRACTICE.

IT is hoped that this article will be of help to the general practitioner who does not ordinarily undertake the treatment of tuberculosis, but who from time to time finds himself at the bedside of a very sick tuberculous patient. It is not intended to deal systematically with the diagnosis or treatment of the disease or to supply information for which the doctor turns normally to a text-book or an encyclopædia. It is intended, however, to supply precise guidance on some matters about which the text-books are not usually dogmatic.

The general practitioner has often to deal with the least hopeful and least satisfactory kind of patient. Sometimes the patient has advanced and extensive disease and seeks the general practitioner's aid only because he can no longer attend a clinic. Sometimes he has had to go to bed with a sudden exacerbation of chronic disease or some intercurrent illness and he calls in the local doctor, though still considering himself under the care of a specialist. Then, there are febrile patients with "unresolved pneumonia", not immediately suspected to be tuberculous, but at length found to be coughing up tubercle bacilli. In the country most general practitioners have a few patients with chronic tuberculosis, who are outwardly pretty well and are able to work, but who live in continual apprehension of suffering a relapse and of the town finding out what is the matter with them. These types of patient will be considered in the following paragraphs, after which mention will be made of some troublesome symptoms and of some drugs in common use.

Advanced Tuberculosis.

One of the most trying problems is presented by the patient with advanced disease, wasted, slightly pyrexial, and with a "graveyard" cough, who is no longer able to attend a clinic, who has come home from hospital, or who refuses to go into one, or (more often) cannot get in. It is usual to tell such a patient to rest in bed, as rest "encourages healing and diminishes toxæmia". But the doctor knows that the disease will never heal. In such a case he should remember that "man does not die by toxæmia alone". If the patient stays in bed he becomes weaker and more helpless. He may often be seen with his ears and nose above the bedclothes of a veranda bed, listening to the wind flogging the blinds to and fro and thinking of goodness knows what. Night sweats are a great trouble to him when they occur in the early hours of a cold morning. His legs are thin as matches and he gradually fades away, out-of-sight-out-of-mind except to some devoted spouse or relative. I have noticed that those who cannot rest but have to get up and fend for themselves tend to live longer. Their end comes quickly when it does come and they suffer less in both body and mind.

I recommend for such patients the following regimen, which will, of course, have to be modified according to circumstances. The patient stays in bed until an hour or so after breakfast. He then rises, bathes and shaves and dresses fully, including shoes, ready polished by himself—patients should always be kindly encouraged to take great care of their appearance. He then takes a gentle walk out of doors, the distance being specified. This daily outing, brief though it may be, is a great physical and mental stimulant and may colour the rest of the day. On his return he changes any damp clothes and rests in an armchair or on a sofa, occupying himself congenially. He may with advantage do useful things if he is mentally and physically equal to them, such as mending clothes and preparing vegetables for cooking; but I make it a rule that he should not follow any one occupation for more than an hour and a half at a time. After lunch he remains idle for one-half to one hour and may sleep. During the afternoon, if the weather is pleasant, he may take another walk out of doors. Otherwise he continues to occupy himself as during the morning. He returns to bed when he feels a little tired, or when it begins to get cold, or after the evening meal has been cleared away, whichever happens first.

Some care may be necessary to prevent the patient disseminating infection unduly and the doctor should devote a special interview to this subject.

What is the doctor to talk about on his visit? There are certain subjects that should be raised every time. First, he should appear to take an interest in what the patient is doing with his time and if necessary he should direct his activity into suitable channels. If the patient is not too ill, and if he will cooperate in preventing the spread of infection to others, he may be allowed to vary his regimen by attending church services now and then and, on special occasions, social gatherings and entertainments; for variety is the spice of life. I have frequently had records made of the temperature and pulse rate of sick patients before and after they have attended such affairs as weddings and I have never found any harm to ensue, although I suppose it might occasionally. Second, the doctor should inquire what the patient is eating—go through the day's food intake article by article and see that the diet is appetizing, various and adequate in Calories, proteins and vitamins. There are no other dietary requirements than these, but I have a few personal fads. For these relatively inactive patients I am a great believer in oatmeal porridge for breakfast, both for its nutritive and laxative effects. I do not believe in too much milk, which is constipating and fattening, for patients who can take sufficient normal food. A pint a day is plenty if the patient is eating a good mixed diet and holding a normal weight. I often encourage patients to take a little alcohol in their diet. George Bodington used to give his patients a glass of wine on their return from the morning drive. A lacing of brandy in a mid-morning egg-flip and a glass of good sherry before dinner often do good, I think. I have seen unexpected improvement follow in patients who have started taking rum and milk regularly (not on my advice) and have wondered whether the rum may not have produced a mental glow that evaporated depressing and harmful thoughts. On the other hand excessive consumption of alcohol seems to be very bad for tuberculosis.

If improvement occurs in the patient's health, so that he feels stronger and more cheerful and coughs less, even though he may not gain weight or demonstrate radiographic clearing, the improvement should be exploited cautiously, by allowing a little more liberty. Improvement judiciously exploited earns compound interest. Should a set-back occur, and little set-backs are frequent in advanced tuberculosis, the doctor should not at once lose faith in the liberal regimen. He should be ready to resume it when the pyrexia has settled again and meanwhile should encourage the patient strongly.

Sudden Exacerbations of Tuberculosis.

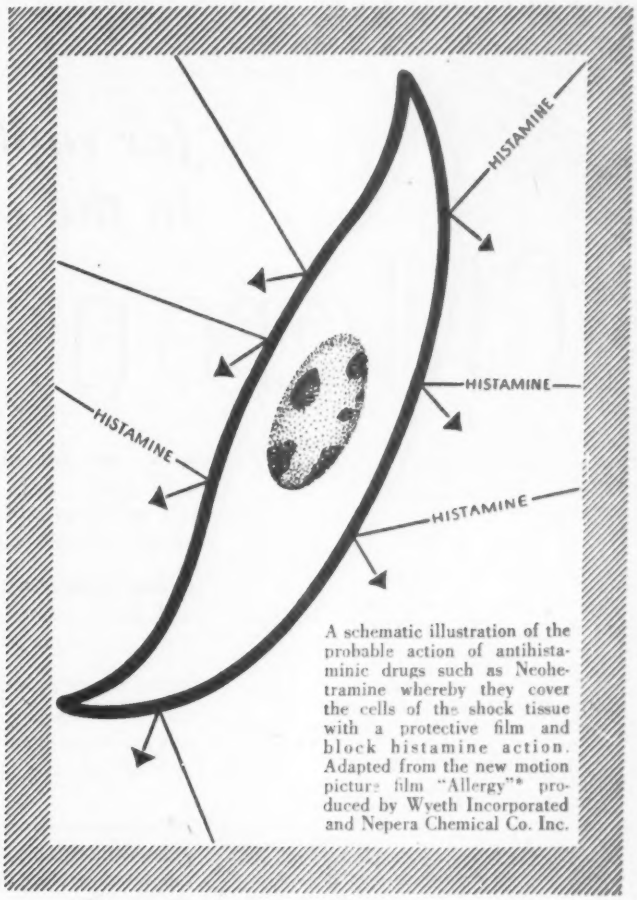
It very frequently happens that a patient, who is under the care of a specialist or clinic, calls in his local doctor because he has had a sudden febrile illness with cough and, perhaps, with pain in the chest when he takes a deep breath. The usual cause is an outbreak of tuberculosis in a fresh part of the lung: if there is pain this outbreak is close to the pleura. Such attacks usually settle down by lysis in a week or so and the patient does not receive any serious set-back. The patient should be put to bed and given symptomatic treatment and the temperature recorded every four hours. If the attack does not soon show signs of settling down, treatment with streptomycin should be considered, and the doctor would do well to get in touch with the specialist. In any event a full review of the case is called for. Such attacks do not occur without provocation. The doctor should try to discover any source of abnormal physical strain or of nervous tension of a depressing kind: the latter is very often at the root of the trouble and it may be possible to help the patient to resolve it.

Intercurrent Infection.

When diseases such as colds, influenza, sore throat and virus pneumonia are epidemic, tuberculous patients are just as likely as anyone else to catch them (but not more likely, I think). It is my impression that such patients, if they are carefully nursed until the infection has abated and do not return to work before it has done so, seldom suffer a relapse of their tuberculosis. On the other hand it is courting trouble to treat the illness with half-measures or for the patient to return to full activity only half-well. In any case it is advisable for any patient who has had an intercurrent infection to be examined medically and by X rays after a few weeks.

Patients who have suffered a relapse of tuberculosis often attribute the relapse to a cold or "flu"; but careful inquiry about the symptoms shows in most cases that the cold or "flu" was not properly diagnosed as such, but was an exacerbation of tuberculosis from the first.

To bring new safety to the treatment of hay fever . . .



A schematic illustration of the probable action of antihistaminic drugs such as Neohetramine whereby they cover the cells of the shock tissue with a protective film and block histamine action. Adapted from the new motion picture film "Allergy"* produced by Wyeth Incorporated and Nepera Chemical Co. Inc.

This film can be made available to medical groups on application to Wyeth Incorporated.

Neohetramine is less toxic than most other available antihistaminics; its lower toxicity is quantitatively more pronounced than its lower effectiveness.

And Neohetramine may be useful in patients in whom the other drugs produce marked sedation or other undesirable side-actions.

So prescribe Neohetramine to bring new safety to the treatment of hay fever and other allergic conditions.

Average Adult Dose: 1 Tablet four times daily.

Supplied—Tablets of 50 mg. in vials of 24 and bottles of 100.

Prescribe

Neohetramine

REGISTERED TRADE MARK

HYDROCHLORIDE

Brand of Thonzylamine Hydrochloride

It's Safe — It's Effective

Wyeth

REGISTERED TRADE MARK

Neohetramine is the registered trade mark of the Nepera Chemical Co. Inc. for its brand of Thonzylamine.

WYETH INCORPORATED (Incorporated in U.S.A.) 44 BRIDGE STREET, SYDNEY

Neo.2M/51

for rapid response in the pneumonias

Chloromycetin

lobar pneumonia with bacteremia

"After initiation of Chloromycetin therapy the temperature returned to normal within forty-eight hours, and prompt subsidence of the cough and chest pain occurred."[1]

bronchopneumonia

"Clinically, the child improved rapidly and was out of the oxygen tent in 24 hours and afebrile in 36 hours."[2]

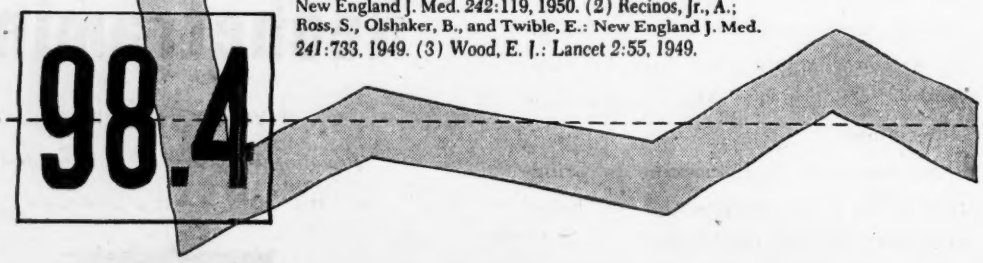
primary atypical (virus) pneumonia

"On the first evening of Chloromycetin treatment the subjective symptoms were less severe, and within 24 hours his fever began to settle."[3]

Chloromycetin is effective against practically all pneumonia-causing organisms. Response is strikingly rapid, temperature drops, the lungs clear . . . and your patient is convalescent.

Chloromycetin is unusually well tolerated. Side effects are rare, severe reactions almost unknown.

Bibliography (1) Hewitt, W. L., and Williams, Jr., B.: New England J. Med. *242*:119, 1950. (2) Recinos, Jr., A.; Ross, S., Olshaker, B., and Twible, E.: New England J. Med. *241*:733, 1949. (3) Wood, E. J.: Lancet *2*:55, 1949.



Chloromycetin (Parke-Davis) is supplied in Kapseals of 250 mg.

PARKE, DAVIS & CO. LTD.

MEDICAMENTA VERA

"Unresolved Pneumonia."

It is not unusual to see patients who have had an illness resembling virus pneumonia which has not cleared up promptly, and from whose sputum, examined after a delay of some weeks, tubercle bacilli have been recovered. Alternatively, the diagnosis of tuberculosis may have been made by X-ray examination. The doctor may have suspected the true nature of the disease because with the stethoscope he could not find physical signs to account for the symptoms (tuberculosis is "seen but not heard") or because of night sweats. It is no discredit not to diagnose these cases promptly in general practice; nevertheless the diagnosis should not be too long delayed—and it will not be if the doctor keeps the twin possibilities of tuberculosis and bronchial carcinoma in the front of his mind whenever he sees a patient who has not recovered quickly from pneumonia or pneumonitis.

When the diagnosis has been made, what is to be done? It is not sufficient to start a course of streptomycin and hope that its magic will restore the patient to health. Streptomycin may be very beneficial; but it may be better to reserve it in case of a greater need for it later. It may be that collapse therapy is indicated. Pending a decision about definitive treatment it is a good plan to pay the patient a special visit at a time when there is no hurry and to have a conversation without any third party present. At this interview one may learn for the first time of serious mental or emotional stresses which have militated against recovery. Then one may be able to orientate the patient's thoughts and thus help him to discharge nervous tension to his great benefit—or it may be possible to offer practical help in the solution of a problem. Sometimes I have seen patients who have been pyrexial day after day and week after week, and have tried getting them up out of bed for an hour or so during the forenoon and allowing them to take a short walk inside the house or to a chair in the sun: this small amount of exercise has been followed immediately by abatement of the pyrexia and the beginning of improvement. I know that this is unorthodox treatment and I have known it to make the pyrexia worse; but it is often successful, possibly because it causes re-aeration of parts of the lung that have become deflated.

If, despite encouragement and orientation and a little movement, there is no improvement, there is an undoubted indication for treatment with streptomycin.

Quiescent Tuberculosis.

The patient with quiescent tuberculosis who is able to lead a pretty normal life should be encouraged to do so, and the doctor should not hedge him about too much with restrictions and threats. But he should encourage him to come regularly for review—three times a year is not too often for the patient with the most quiescent lesion. Unless there is regularity the patient may be inclined to postpone a visit because he is not feeling well and fears what he might be told. At each visit the patient should be weighed and inquiry made about symptoms referable to the chest, especially expectoration. The opportunity should be taken to awaken his conscience in respect of reasonable precautions against infecting others. If there is loss of weight the cause must be carefully sought, for there is possible danger if the expenditure of physical and nervous energy exceeds the intake of energy in the form of food. The X-ray examination should be repeated every year—oftener if there is any circumstance suggestive of deterioration. It is helpful if the doctor can make serial determinations of the blood sedimentation rate. The sputum, or, if there is none, the resting gastric juice, should be examined occasionally for tubercle bacilli, by a cultural method if necessary. A patient who excretes tubercle bacilli is in constant danger (to say nothing of his being a carrier of the disease), and the finding of tubercle bacilli in the sputum should lead to consideration of whether their source can be dried up and how.

Cough.

It is not a good thing for patients to take cough mixtures day and night. They usually contain some derivative of opium and are habit-forming and constipating besides taking the edge off the appetite and off the wit. If there is a frequent distressing barking cough without much expectoration, not due to intercurrent infection and persisting for weeks, it is likely that the patient has tuberculous bronchitis. In such a case a short course of treatment with streptomycin will be the most helpful remedy. If there is much expectoration nothing short of general anæsthesia would control the cough. In such a case it may be helpful to try to find some form of postural drainage which will enable all the pus and secretion to be got up several times a day, so that the cough will be less afterwards. A dose of codeine or amidone hydrochloride at night will be helpful. If there is a morning cough with difficulty in fetching up secretion which the patient can feel in his chest, a cup of tea is one of the most effective "pipe-openers". Expectorant mixtures containing ammonium carbonate, ipecacuanha or potassium iodide are most unsuitable. Tuberculous patients often suffer from an allergic respiratory catarrh in the morning which is greatly relieved by 10 milligrammes of promethazine hydrochloride ("Phenergan") taken the night before.

Expectoration.

The disinfection and disposal of sputa and the sterilization of any non-disposable containers is a task for someone. It is a task that is obviated if the patient can swallow his sputum, and I advise him to do so if the amount is not large and he conveniently can without distaste. One reads in books that the practice leads to tuberculous enteritis; but what sufferer from open tuberculosis, however religiously he may use his mug during the day, does not swallow his sputum during the night? The truth is that tuberculous enteritis will occur in gravely ill patients no matter how they dispose of their sputa.

Dysphagia.

Pain on swallowing is a sign of ulceration of the ary-epiglottic folds. Its appearance is of ill omen. It further impairs nutrition and soon breaks the patient's spirit. Prompt treatment is indicated by means of streptomycin. Some relief may be given by spraying the larynx before each meal first with a 40% solution of "Promanide" and then with the antiseptic spray (Australian Pharmaceutical Formulary), which contains chlorbutol.

Night Sweats.

The subject of night sweats is one on which the books are extremely different and unhelpful in their advice. When night sweats occur in association with acute tuberculosis they cease when the disease is brought under control. When they occur in chronic and advanced tuberculosis they are very trying and debilitating and difficult to stop. They are much more frequent in the bed-ridden than in ambulatory patients with disease of comparable extent. It is most helpful to get the bed-ridden patient out of bed and into a chair for a while each morning notwithstanding the presence of hectic fever. The getting out is often followed by some degree of remission of the pyrexia. The morning bath also seems to be beneficial, and if the patient is too weak to stand under a tepid shower he should be bathed in bed. A possibility to be considered is that there exists a tuberculous pulmonary abscess. A short course of streptomycin may bring about the reopening of an occluded bronchus and permit imprisoned pus and secretion to drain away. I do not agree with the advice given in some text-books that the patient should have light bedclothes and sleep with the windows wide open: he should always feel warm at night and the windows should be closed if he coughs.

Hæmoptysis.

Hæmoptysis is often alarming but seldom dangerous. Generally the doctor is quite safe in speaking reassuringly to the patient and members of the household; and to give reassurance, I think, is one of the most helpful things he can do. If the patient was not previously known to have lung trouble, he can say that the bleeding may have drawn attention to its presence before much damage has been done. If the patient is known to have pulmonary tuberculosis, but has never bled before, he can say that the blood is an unpleasant visiting card and shows that the old microbe is still alive, but that the mere giving way of a blood vessel does not of itself indicate deterioration in health.

A patient with hæmoptysis should be seated in an arm-chair or propped well up in bed, because in this position he can spit into a bowl or mug without having to move his body. The old advice that the patient should lie on the affected side, if known, is not sound. A pleasantly tasting mouthwash should be placed on the bedside table.

If the patient is very shaken a tablet or so of bromide or of amidone hydrochloride or of papaveretum may be administered. I never give injections of morphine, not because of any fear that the patient may "drown in his own secretions", but because it has such a tendency to make him sick. The injections of calcium gluconate, beloved of European physicians, are dramatic, but not helpful so far as I have been able to tell. "Ice to suck" is a popular remedy; in fact, I have seldom seen a patient with hæmoptysis in hospital who had not a saucerful of cracked ice beside him. It is not pleasant to suck ice for more than a short time, so I do not advise its use. The patient can have whatever liquid he likes. I have several times given a cup of hot tea to a patient with hæmoptysis and have seen no harm follow.

Hæmoptysis is sometimes very free and profuse. If a pint of blood appears to have been lost and free hæmoptysis continues, one millilitre of injection of pituitary (posterior lobe) should be added to an ampoule of ten millilitres of physiological sodium chloride solution, which should then be injected slowly into an arm vein over a period of ten minutes, not less; a watch is used to measure the time taken. Control of the bleeding is prompt. A bed pan and a vomit bowl should be in readiness. A transfusion should be organized if the patient's blood is much depleted.

Hæmoptysis, though it does not indicate deterioration in health, should lead to a review of the case on broad lines, because deterioration is apt to follow. Hæmoptysis often follows an emotional crisis, which will not be revealed to the doctor unless he inquires.

General Medication.

There is not a great deal of scope for the medication of tuberculosis in general practice. Generally speaking, the patient's money is much better spent on the butcher and the grocer than on the chemist. However, this is the place for a word about the administration of streptomycin, the uses of which have been indicated, and about some other popular drugs.

Streptomycin.—Streptomycin (or dihydrostreptomycin) is given by intramuscular injection. The dose is 0·25 to 0·5 gramme every twelve hours; the smaller dose is usually effective. The duration of treatment depends on the effect. A course of 10 grammes given over twenty days is a suitable one to give in the first instance for very recent exacerbation, persistent pyrexia, laryngitis or bronchitis, where expert guidance is not available. When streptomycin is administered, certain strains of the tubercle bacillus which are resistant to its action continue to flourish in the lesions, though the majority are inhibited. Thus the indiscriminate use of streptomycin may be harmful to the patient, because he may be deprived of its benefit at a later period, when he requires it to help tide him over a surgical operation or a serious relapse. Further, it may be dangerous to the public health, in that patients after receiving much streptomycin may disseminate resistant strains of the bacillus. These dangers are to some extent overcome by the coincident use of the sodium or calcium salts of para-aminosalicylic acid.

Sodium Para-Aminosalicylate.—Sodium para-aminosalicylate is a bacteriostatic drug which acts upon the tubercle bacillus much as the sulphonamides act upon streptococci, provided that it can reach them in sufficient concentration. It is given by mouth in a dose of about three grammes (six tablets or dragées of 0·5 gramme) four times a day after food for several months. It is necessary to watch the patient's weight carefully, for some patients, contrary to published reports, lose appetite and weight while taking the sodium salt of PAS. These symptoms are less likely to occur if the drug is administered in enteric-coated tablets. It is said that they may be countered by giving colloidal aluminium hydroxide with each dose. Alternatively the calcium salt of PAS may be substituted for the sodium salt one week in two or three.

Thiacetazone.—Thiacetazone is another bacteriostatic drug, which is given by mouth after food in a dose of 50 milligrammes daily the first week, 100 milligrammes daily the second week and 150 milligrammes daily the third week, the course being then repeated. It is also apt to depress appetite. Thiacetazone is worthy of trial if the salts of PAS upset the patient and vice versa.

Amphetamine Sulphate.—Amphetamine sulphate (or dexamphetamine sulphate) in a dose of 2·5 milligrammes (increased after a week to 5·0 milligrammes) after breakfast and again during the forenoon is a very helpful drug when the patient's spirits are depressed. It is worth mentioning that the emotional tone of many tuberculous patients is depressed and that this is very harmful to them. The *spes phthisica*, which students never fail to mention as one of the symptoms of the disease, is a terminal manifestation.

Fish Liver Oil, Malt and Vitamins.—Fish liver oil, malt, vitamins and preparations of these may have a place in the treatment of an occasional patient who cannot take a mixed diet, but they should never be prescribed merely for the sake of old tradition. It is sad to think of all the money wasted on these medicines by people with little to spare and horrible to imagine their countless fishy eructations.

DOUGLAS ANDERSON, M.D.,
Sydney.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the Queensland Branch of the British Medical Association was held at the Medical School, Herston Road, Brisbane, on December 14, 1951, DR. G. V. HICKEY, the President, in the chair.

REPORT OF THE COUNCIL.

The annual report of the Council for 1951, which had previously been circulated amongst members, was received and adopted on the motion of Dr. B. L. W. Clarke, seconded by Dr. L. P. Winterbotham. The report is as follows.

The Council has pleasure in presenting the fifty-seventh annual report of the work of the Branch for the year ending November 15, 1951.

Membership.

The membership of the Branch is 901, *plus* 7 honorary life members, as against 851 and 6 honorary members in 1950, making a total gain of 51. There are also 146 honorary associate members, 30 of whom were elected this year. Forty-eight honorary associate members were elected to full membership on graduation.

The gains were: new members, 71; transfers from other Branches, 38; members reelected, 2. The losses were: members transferred from Branch, 51; resignations, 1; deceased, 9.

The following, by virtue of their fifty years' membership of the British Medical Association, have become honorary life members: Dr. A. B. Carvosso, Dr. H. R. Cope, Dr. J. A. Goldsmid, Dr. W. Wallis Hoare, Dr. T. A. Price (also Honorary Vice-President of the Branch), Dr. E. W. Kerr Scott, and Dr. W. Woodburn Stevens.

Obituary.

We regret to record the deaths of the following members: Dr. Milton Geaney, Brisbane; Dr. C. E. S. Jackson, Brisbane; Dr. John H. Crawford, Brisbane; Dr. Alex. J. MacDonald, Brisbane; Dr. Andrew P. Crawford, Brisbane; Dr. A. B. Vattuone, Brisbane; Dr. R. M. Smith, Brisbane; Dr. Gavin H. Cameron, Brisbane; Dr. K. F. C. Brunnich, Brisbane; and Mr. Brian Aldrich and Mr. Lionel Hatton, honorary associate members, who were accidentally killed.

Meetings.

In addition to the annual meeting, ten general meetings of the Branch were held, including two clinical meetings. The average attendance at the general meetings was 71.

Council.

Twenty-two meetings of the Council were held, two being special meetings. Record of attendance is as follows:

Dr. Glen V. Hickey (President)	21
Dr. K. B. Fraser (President-Elect)	18
Dr. H. R. Love (Past President)	12
Dr. H. W. Horn (Chairman of Council, Federal Council Representative)	20
Dr. F. W. R. Lukin (Honorary Treasurer)	14
Dr. J. R. Adam (Honorary Secretary)	22
Dr. B. N. Adsett (Honorary Secretary of Committees)	17
Dr. H. W. Anderson (Councillor)	17
Dr. F. W. Arden (Councillor)	14
Dr. B. L. W. Clarke (Councillor)	14
Dr. R. M. Ferguson (Councillor)	15
Dr. Alan E. Lee (Federal Council Representative, Councillor)	19
Dr. A. D. A. Mayes (Councillor)	16
Dr. H. S. Patterson (Councillor)	19
Dr. W. J. Saxton (Chairman of Committees)	20
Dr. W. H. Steel (Councillor)	18
Dr. S. M. Stephenson (Councillor)	18
Dr. J. G. Wagner (Councillor)	20

Scientific and Medico-Political.

February.—Clinical meeting in conjunction with the Brisbane Hospital Clinical Society, at which the Memorial Prize of the Queensland Branch of the British Medical Association and the Harold Plant Memorial Prize were presented.

March.—Dr. William Pickles: "Research in General Practice", arranged in conjunction with the University of Queensland Post-Graduate Medical Education Committee.

April.—Dr. John Tonge: "Impressions of Pathology at Home and Abroad."

June.—Professor Matthew J. Stewart: "Medicine in Pepys's Diary" (Bancroft Oration).

July.—Dr. Alex. Murphy: ". . . Shoes and Ships and Sealing Wax."

August.—Dr. A. G. S. Cooper: "Modern Trends in Radiotherapy."

September.—Associate Professor M. F. Hickey: "Genes and Mermaids: Changing Theories of the Causation of Congenital Abnormalities" (The Jackson Lecture).

October.—Clinical meeting in conjunction with the Mater Misericordiæ Hospital Clinical Society.

November.—Dr. N. V. Youngman: "Psychiatric Scenes Overseas."

Sir William Gilliatt, whose visit to Brisbane coincided with the date of the May meeting, lectured to members on "Practical Points in Gynæcology". Sir William is Past President of the Royal College of Obstetricians and Gynæcologists and visited Brisbane under the auspices of the College, by arrangement with the Queensland Post-Graduate Medical Education Committee.

Office Bearers and Councillors.

Dr. H. W. Horn was elected first Chairman of the Council in accordance with the amended by-law. This innovation has proved a success in every way. The President is thus relieved of this duty and is free to devote his time to other important official matters and to take a more active part in the discussion at Council meetings. Also a wider choice of candidates for the Presidency is made possible as members outside the metropolitan area may now be elected to fill the office of President of the Branch without undue demands on their time. The following officers were appointed by the Council for 1951: Chairman of Council, Dr. H. W. Horn; Honorary Treasurer, Dr. F. W. R. Lukin; Chairman of Committees, Dr. W. J. Saxton; Honorary Secretary of Committees, Dr. B. N. Adsett (reelected); Honorary Librarian, Dr. Neville G. Sutton (reelected); Honorary Assistant Librarian, Dr. Konrad Hirschfeld (reelected).

For personal reasons Dr. J. R. Adam, who has been Honorary Secretary of the Branch for the past three years, is not seeking reelection to that position. The Council wishes to record its deep appreciation of the efficient and valuable services rendered by Dr. Adam to the Branch during his period of office.

Dr. R. M. Ferguson, who was a member of the Council during the past year, is not offering himself for reelection.

In conformity with the provisions of Amended By-Law 8 (*a*), only seven members of the Council will be elected for 1952, instead of fourteen as previously. In future half the number of councillors will retire annually and half will remain in office for two years.

Representation.

The Branch was represented as follows during the year.

Council of the British Medical Association.—Dr. Isaac Jones.

British Medical Association Representative Meeting, London, England, 1951.—Dr. Joyce Stobo, Dr. N. V. Youngman.

Federal Council of the British Medical Association in Australia.—Dr. H. W. Horn, Dr. Alan E. Lee.

Australasian Medical Publishing Company, Limited.—Dr. Alan E. Lee (director), Dr. T. A. Price, Dr. H. W. Horn (members).

Australian Association for Better Hearing.—Dr. Herbert Earnshaw, Dr. J. R. Hutcheon.

Australian and New Zealand Association for the Advancement of Science.—Dr. Ian Mackerras, Dr. E. H. Derrick.

Flying Doctor Service.—Dr. Harold Crawford.

Medical Assessment Tribunal.—Dr. G. W. Macartney.

Medical Board of Queensland.—Dr. R. G. Quinn, Dr. F. W. R. Lukin, Dr. J. G. Wagner.

National Safety Council of Australia (Queensland Division).—Dr. L. A. Little.

Medical Officers' Relief Fund (Federal): Queensland Committee.—Dr. W. H. Steel, Dr. G. W. Macartney, Dr. K. B. Fraser.

Physiotherapy Board of Studies.—Dr. J. R. S. Lahz.

Physical Fitness Association of Queensland.—Dr. E. S. Meyers, Dr. Harold Crawford.

Post-Graduate Medical Education Committee.—Dr. Alan E. Lee, Dr. H. R. Love, Dr. J. R. S. Lahz.

Queensland Institute of Medical Research.—Dr. W. H. Steel.

Queensland Health Education Council.—Dr. Felix Arden.

Queensland Bush Nursing Association.—Dr. L. Bedford Elwell.

Queensland Bush Children's Health Scheme.—Dr. Felix Arden.

Surf Life Saving Association of Australia (Queensland Branch).—Dr. F. W. R. Lukin.

Federal Medical War Relief Fund: Local Committee of Management.—Dr. J. G. Wagner (Chairman), Dr. F. W. R. Lukin (Honorary Secretary), Dr. J. V. Duhig, Dr. Harold R. Love, Dr. B. L. W. Clarke.

The Editor of THE MEDICAL JOURNAL OF AUSTRALIA was represented by Dr. Felix Arden.

Ethics Committee.

The following were reelected to the Ethics Committee at the last annual meeting of the Branch: Dr. G. W. Macartney, Dr. Val. McDowall, Dr. L. J. J. Nye, Dr. J. J. Power, Dr. R. G. Quinn, Dr. M. Graham Sutton, Dr. Norman Sherwood. Dr. Sutton and Dr. Sherwood were subsequently reelected Chairman and Honorary Secretary respectively.

Three meetings were held to deal with matters referred by the Council and the reports of the Ethics Committee were acted upon.

Library.

During the year 208 books were borrowed by 63 doctors, including six country members. The Branch subscribes to forty medical journals, twelve "Year Books", "Medical Annual", "Index Medicus", "Collected Papers of the Mayo Clinic", "Harvey Lectures", "Medical Research Council Reports" *et cetera*. The Australian Journal of Dermatology is an additional journal to which we now subscribe. Regular use is made of the library by a number of members for reference purposes. The staff is always willing to assist members in every way possible. A letter was received from the Editor advising that at their meeting held in February, 1951, the directors of the Australasian Medical Publishing Company, Limited, discussed the allocation among Branch libraries of the books reviewed in the columns of THE MEDICAL JOURNAL OF AUSTRALIA, which were not wanted by the Editor for editorial purposes. Previously by an arrangement made in 1914, these books were divided between the libraries of the New South Wales and Victorian Branches, but arrangements have now been made for the books to be divided equally between the libraries of the six Branches. Subsequently from this source seventeen books on miscellaneous medical subjects were received and added to the Branch library.

Organization Subcommittee.

Personnel.—Dr. W. J. Saxton (Chairman), Dr. A. G. Anderson, Dr. B. L. W. Clarke, Dr. R. Ferguson, Dr. Alan E. Lee, Dr. A. D. A. Mayes, Dr. H. S. Patterson, Dr. J. G. Wagner, and ex-officio members of the Council.

Twenty meetings were held during the year which considered business to come before the Council. Many matters were dealt with by the subcommittee, while on those involving policy and other important questions recommendations were made to the Council.

By-Laws: Amendments.

In accordance with the Articles of Association, notice has been given to members of the proposed amendment of various by-laws which will be placed before the annual meeting to be held on December 14, 1951. By-Law 4 (*b*). Subscriptions. To limit the reduction of joint annual subscription by £2 to "two members being husband and wife . . .". "Lodge Contract Practice." By-Laws 53 (*b*), 57 and 65: to bring the by-laws into conformity with the change in lodge practice at present being implemented. 69 (*f*) (1). "Affiliated Local Associations Regulations": To delete a paragraph which is unnecessary in connexion with representatives. 87 (7) and (8). "Rules Governing the Conduct of Members in Private Practice": To delete reference to assistants' standard fee in regard to operations and anæsthetists' standard fee as both methods of payment are now obsolete.

Medical Fees.

For several months past the subject of medical fees has received the serious consideration of the Council in view of the present state of the value of money. An important notice to members was issued on October 5, explaining the attitude of the Council in relation to the question of private fees. On November 15 a General Practitioner Scale of Fees was issued with a preamble stating that, having gone carefully into the general question of fees, the Council is of the opinion that this scale is a fair average basic scale of fees for the metropolitan area at the present time.

Government Medical Officers.

As an outcome of an approach by the Council to the Health Department, basic salaries of part-time government medical officers have been increased in the majority of cases. In addition the fee for medical examinations carried out on behalf of the State Public Service was raised from 10s. 6d. to 12s. 6d.

Hospitals.

Intermediate and Private Hospital Accommodation in Public Hospitals.—This matter has been discussed with the Department of Health and Home Affairs. The Government accepts the responsibility of providing hospital accommodation for all sections of the community, and provided that no public hospital case is refused admission for lack of accommodation, it has no objection to local boards declaring sections of the hospital available for intermediate or private patients.

Salaries of Full-Time Specialists.—Following recommendations from a subcommittee of the Federal Council, which was appointed to obtain the opinion of all the Branches, it was decided that the commencing salary of a full-time specialist should be not less than £1750 *per annum* with appropriate increments.

General.

Principals and Assistants.—A ruling has been given by the Council concerning the question of a member who is acting as an assistant and subsequently desires to practise in the same area on his own account. In the case under consideration there was no written agreement. The Council resolved that the commencing of practice by an assistant in the area in which he was engaged is not forbidden by the by-laws nor by the Code of Medical Ethics, and could apply only if there is a specific clause in the agreement. It was emphasized that it is the principal's responsibility to have this point determined at the commencement of the association.

Issue of Medical Certificates.—It was decided by the Council that members be advised of their responsibilities under the *Medical Act*, namely, that all certificates issued should be statements of fact known to the doctor issuing them.

Lodges.

Lodge practice under the capitation system of payment will cease after the end of this year when a fee-per-service method will be introduced. This is in conformity with the action taken in all other parts of the Commonwealth. Members holding lodge appointments tendered three months' notice of termination of their agreements to take effect on December 31, 1951.

Medical Fees Tribunal.

Personnel.—Dr. J. G. Wagner (Chairman), Dr. Alan E. Lee (Honorary Secretary), Dr. G. W. Macartney, Dr. H. S. McLelland, Dr. R. G. Quinn, Dr. Norman Sherwood.

Five meetings of the committee took place to deal with eight cases submitted to it for adjudication. Four of these were workers' compensation cases and the other four concerned medical fees which were considered excessive. In six cases the findings were that the fees charged were "higher than was warranted", in one case the fee was "fair and just", and one case was outside the terms of reference of the tribunal.

Workers' Compensation Insurance.

The amended Schedule of Fees agreed upon between the British Medical Association and the State Government Insurance Commissioner came into operation on July 1, 1951, and in most cases the amounts show an increase on the old schedule.

Owing to great difficulties in his department in relation to payment for Forms 5 and 5A, the Insurance Commissioner decided that such payments should cease as from July 1, 1951. However, on the representation of the Council, he agreed, as an alternative, to increase the attendance fee to 15s. in two-attendance cases.

Repatriation Commission.

The matter of repatriation services being used for other than accepted war disabilities has been taken up by the Federal Council with the Minister for Repatriation. A reply has been received giving reasons for the policy of the Commonwealth Government. Sessional fees of part-time visiting specialists have been increased to £4 4s. for attendance of one hour or less and local medical officers now receive a flat rate of 10s. per attendance. Rates payable for the financial year 1951-1952 for medical benefits for widows, widowed mothers and orphans of deceased servicemen are as follows: metropolitan £2 15s. 4d., country £3 8s. 1d.

Medico-Legal Liaison.

A closer liaison with the legal profession is considered desirable, and a meeting of representatives of the Queensland Law Society and the Queensland Branch of the British Medical Association is being held shortly to consider matters of mutual interest, and probably the formation of a Medico-Legal Society in Queensland.

Medical Pharmaceutical Liaison Committee.

Two meetings of the committee have taken place during the year, and it is felt that such liaison between the two bodies is beneficial in helping to solve problems and difficulties which confront chemists and doctors, particularly in relation to the *Pharmaceutical Benefits Act*. The representatives of the Branch are: Dr. H. W. Horn, Dr. Harold Love, Dr. Otto Hirschfeld and Dr. A. D. A. Mayes.

National Health Service.

Pensioner Medical Service.—Although there are some areas where doctors have been unwilling to cooperate, the medical service for pensioners has in general worked smoothly during the year. However, there have been numerous complaints from participating doctors, particularly with regard to the apparently unnecessary clerical work involved. Representations have been made by the Federal Council to the Minister for Health on various questions, such as increased rates of payment, automatic adjustment of rates in accordance with variations in the basic wage, payment by the Government of mileage over long distances, and reduction of the clerical work necessitated by multiple vouchers. It is hoped that new legislation after the new year will rectify many existing anomalies.

Pharmaceutical Benefits.—The list of drugs available under the Act is being constantly expanded in accordance with recommendations from the Pharmaceutical Benefits Advisory Committee of the Federal Council, and the Minister has agreed that no additions will be made without the approval of that committee. There can be no doubt that the provision of these drugs, which are all therapeutically effective and many costly, has given to the community a health benefit of great value. It is a pleasure to report that virtually the only complaint concerning the provision of pharmaceutical benefits in Queensland has been the over-prescribing of drugs in short supply, particularly aureomycin. It is hoped and believed that doctors will exercise careful judgement in prescribing these costly drugs. All suggestions from members are welcomed by the Council, and are forwarded to the Advisory Committee.

General Practitioner Group (British Medical Association).

The annual meeting was held on July 26, 1951, when the following office bearers and committee were elected: Dr. L. P. Winterbotham (Chairman), Dr. A. D. Isles (Honorary Secretary), Dr. B. N. Adsett, Dr. A. D. A. Mayes, Dr. L. P. Musgrave, Dr. H. J. Winterbotham, Dr. Malcolm Carseldine and Dr. E. Lorimer Walker.

Five meetings of the committee were held during the year when matters concerning general practitioners were discussed.

Many members have agreed to participate in the pensioner medical service, and suggestions for the simplification of vouchers used in the pensioner scheme were sent to the Branch Council.

The readjustment of fees was discussed at the annual meeting and a subcommittee of general practitioners was appointed by the Council and the committee to revise the existing scale of fees.

Members holding lodge agreements were requested by the Council to forward their resignations to the Friendly Societies Medical and Hospital Council, and in the country

to lodge secretaries, by October 1, 1951, in order to give the necessary three months' notification of termination of contract.

It was felt that it would be advisable to build up a reserve fund against a possible future need, and general practitioners were requested to join the General Practitioner Group and to forward the annual subscription of 10s. to the Honorary Secretary.

A. D. ISLES,
Honorary Secretary.

Sections for Study of Special Branches of Medical Knowledge.

Medical Historical.—Professor H. J. Wilkinson (Chairman), Dr. G. B. V. Murphy (Honorary Secretary).

Obstetrical and Gynæcological.—Dr. Robin Charlton (Chairman), Dr. Roy Hemsley (Honorary Secretary).

Ophthalmological.—Dr. C. N. Matheson (President), Dr. Andrew Harrison (Honorary Secretary).

Orthopædics.—Dr. George Douglas (Chairman), Dr. A. McSweeny (Honorary Secretary).

Oto-Rhino-Laryngological.—Dr. Athol Quayle (President), Dr. C. Wark (Honorary Secretary).

Pædiatrics.—Dr. P. A. Earnshaw (Chairman), Dr. Neville Anderson (Honorary Secretary).

Surgical.—Dr. Alan E. Lee (Chairman), Dr. R. S. Cohen (Honorary Secretary).

Affiliated Local Associations.

The annual conference of representatives of local associations and members of the Council was held on May 30, 1951, and was well attended, eleven districts being represented.

Many matters of current interest were discussed and the interchange of information was beneficial to all concerned.

In August the President, Dr. Glen V. Hickey, visited Rockhampton, Mackay, Townsville and Cairns.

Townsville Local Medical Association.

The following is the report of the activities of the Townsville Medical Association for the year ending October, 1951.

The membership of the association at present totals twenty-seven. At the annual meeting Dr. P. J. Monahan was elected President and Dr. G. J. Douglas, Secretary-Treasurer. Sixteen meetings have been held, about two-thirds of which were clinical meetings.

The Post-Graduate Medical Education Committee sent visiting lecturers on two occasions, and the lectures and clinical demonstrations were appreciated by all. Dr. W. G. Livingstone and Dr. Stephen Suggit visited us in May, and Dr. K. B. Fraser and Dr. T. V. Stubbs Brown in August. The latter lecturers were accompanied by Dr. Glen Hickey, President of the Queensland Branch of the British Medical Association, who spoke to us on medico-political matters. The action of the Council in sending Dr. Hickey to discuss these matters at first hand was greatly appreciated. At the conclusion of each programme the association entertained the visitors at an informal buffet supper.

Two special meetings were held to discuss the opening of the new general hospital and the allocation of beds in the hospital to private practitioners.

Clinical meetings were held as follows:

February.—Presentation of clinical cases by the hospital staff and Dr. J. Breinl, Dr. G. Moore and Dr. V. F. J. O'Neill.

March.—Presentation of clinical cases by the hospital staff. Lecture by Dr. R. Palmerston Rundle on "Nasal Discharges".

April.—Presentation of cases by the hospital staff.

May.—Presentation of cases by the hospital staff.

July.—Presentation of cases by Dr. K. J. Dorney and Dr. M. Elyan. Combined lecture and presentation of cases, "Fracture of the Mandible and Maxilla", by Dr. T. U. Ley, Dr. R. Palmerston Rundle and Mr. Perkins (clinic dentist). At this meeting members of the Townsville Dental Association were invited to attend, and the response was very good.

August.—Films by courtesy of the Imperial Chemical Industries: "Spinal Anæsthesia" and "Operative Shock".

September.—Clinical pathological conference: Dr. L. Halberstater.

October.—Presentation of cases by the hospital staff.

G. J. DOUGLAS,
Honorary Secretary.

South Coast Local Association.

The annual meeting on September 27 completed another successful year for the South Coast Local Association of the British Medical Association (Queensland Branch).

The attendance at the meetings held throughout the year was generally good, especially from the Southport end of the area, and members enjoyed the opportunity of getting together to discuss their common problems.

Through the courtesy of the Queensland Post-Graduate Medical Education Committee a number of lectures were arranged, and proved of great interest to members. The lecturers were Dr. G. H. Brandis, who spoke on "Proctology", Mr. Michael Gallagher, who dealt with "Orthopædics in General Practice", and Dr. J. R. Hutcheon, who spoke on "Modern Trends in Ear, Nose and Throat Practice". In addition a wire recorded lecture by Professor A. W. Grace on "Virus Diseases of the Skin" was presented and illustrated with lantern slides by Mr. E. Bagnall and was much appreciated.

The members feel very much indebted to the visitors and the Post-Graduate Committee and thank them all very sincerely for their valuable assistance.

In addition to the above meetings, several others of a medico-political nature were held, and members were enabled to keep in touch with current developments and to discuss various subjects confronting the profession. It is felt that considerable benefit is derived from discussion of these matters at a meeting of members practising in the same area.

At the annual meeting an increase in some of the medical fees was reluctantly made, to accord in some degree with the rising costs of medical practice.

The officers elected for the ensuing year were: President, Dr. O. N. Lloyd; Vice-President, Dr. G. McCabe; Honorary Secretary, Dr. E. Culpin; Honorary Treasurer, Dr. T. H. Gavin. The membership for 1950-1951 was 12.

W. H. NETTE,
Honorary Secretary.

Mackay Local Medical Association.

Routine activities were pursued throughout the year by the Mackay Local Medical Association. For the first time for many years fees for surgery consultation were raised by 2s. to 12s. 6d. per visit. Fees for domiciliary visits were also raised.

The annual holiday scheme, whereby practitioners perform one another's locums, was continued for another year.

Attempts have been made to appoint an agent in Mackay in connexion with the Medical Benefits Fund of Australia. A suitable agent has at last been discovered.

The Local Association is at present holding a survey of the incidence of thyreoid disease in the district. Some interesting points are being unearthed.

Post-graduate lectures in Mackay during the past twelve months have been from Dr. W. G. Livingstone, Dr. S. C. Suggit, Dr. T. V. Stubbs Brown and Dr. K. B. Fraser. A visit was also made by Dr. Glen V. Hickey, President of the Queensland Branch, who addressed members on Council affairs.

Local lecturers during the year were as follows: "A Case of Torulosis", Dr. G. A. Bolton; "Papillœdema", Dr. H. J. Taylor; "The Treatment of Spontaneous Pneumothorax", Dr. G. Candi; "Swellings of the Breast", Dr. S. C. Williams.

S. C. WILLIAMS,
Honorary Secretary.

Nambour District Local Medical Association.

Our year has been a successful one both on the medico-political and the purely medical front. The *Pharmaceutical Benefits Act* difficulties have been sorted out, and such matters as the pensioners' scheme *et cetera* have slowly grown upon us. However, when we meet our one main outcry is against our becoming a group of form-fillers.

As all other local associations, we thank the Post-Graduate Medical Education Committee for their willing cooperation in sending lecturers whenever requested. By interposing film evenings between such visits we have benefited considerably.

By cooperation with our government medical officer we were able to face our local authority recently on a united front and bring into line various health problems—particularly emergency water supplies—which, as a group, we felt needed urgent attention. Our requests were readily acceded to.

During the past year one of our members, Dr. I. W. W. Charles, has relinquished practice in this area, and we now have Dr. B. S. Skerman in his stead.

Our office bearers remain unchanged.

H. L. KESTEVEN, President.
J. E. TROTTER, Honorary Secretary-Treasurer.

Cairns Local Medical Association.

At a recent meeting Dr. D. C. C. Sword was reelected President, and Dr. B. G. Clarke, Honorary Secretary of the Association for 1951-1952.

The activities during the year include maintenance of existing week-end and holiday roster service. All members of the Association expressed their willingness to cooperate with the Government in implementing the pensioner scheme. A roster was formed of duty for the examination of recruits under the National Service Scheme; all members took part in this work.

Mr. S. N. Cobbold, manager of the British Medical Agency, was introduced to members of the Local Association when he explained the policy and general purpose of the Medical Benefits Fund of Australia.

Dr. E. H. Derrick and Dr. I. Mackerras, of the Institute of Medical Research, met members and explained their mode of approach to the problem of investigation of northern fevers of obscure origin.

Post-graduate lecturers to visit Cairns were Dr. A. R. Murray and Dr. Richard Row, Dr. W. G. Livingstone and Dr. S. C. Suggit, and Dr. K. B. Fraser and Dr. T. V. Stubbs Brown.

Dr. E. W. Abrahams, Director of Tuberculosis, Queensland, and Dr. Roach visited Cairns on the matter of tuberculosis control.

T. R. GREGG,
Honorary Secretary.

Downs and South Western Medical Association.

The annual meeting and dinner were held at the Globe Hotel on Saturday, September 22, 1951.

Election of Officers.—President, Dr. W. F. Machin; President-Elect, Dr. V. R. Woodhill; Honorary Secretary-Treasurer, Dr. D. F. Farmer. Members of the Executive Committee are Dr. W. F. Machin, Dr. A. W. L. Row, Dr. V. R. Woodhill, Dr. D. F. Farmer, Dr. J. Shellshear, Dr. F. Trenerry, Dr. J. G. Morris Beale, Dr. J. W. P. Henderson, Dr. A. McGregor, Dr. G. V. Hickey, senior, Dr. A. M. Brunckhorst, Dr. R. J. H. Sharp, Dr. M. Graham Wilson.

Five lectures were given at general meetings under the auspices of the Post-Graduate Medical Education Committee: Dr. Harold Love, "The Neurotic Patient"; Dr. John Woodley, "Anæsthesia", with a practical demonstration the following day; Dr. David Jackson, "Roseola Infantum and Fibrocystic Disease of the Pancreas"; Dr. Derick Yeates, at the combined medical-dental meeting, "Diseases of the Parotid Gland"; and Mr. Naunton Morgan, a visiting proctologist from London, "Minor Diseases of the Rectum".

Two quarterly general meetings were held and one clinical meeting.

Dr. A. S. Furness represented the Association at the conference of local associations held in Brisbane in May.

The Branch recorded with regret the death of a former member, Dr. David Horn. There are nineteen members of the Association who reside in Toowoomba and five members from nearby towns.

D. F. FARMER,
Honorary Secretary.

Ipswich and West Moreton Medical Association.

The following office bearers were elected at the annual meeting, which was held on February 15, 1951: President, Dr. H. S. Patterson; Honorary Secretary, Dr. H. M. Saxby.

The annual subscription was fixed at £1 1s. for members in private practice in Ipswich and at 10s. 6d. for all other members. There are twenty-five members of the Association, twenty residing in Ipswich and five practising in nearby towns.

Meetings.—These were held as follows: October (1950): Recorded lecture, "Virus Diseases of the Skin", by Professor Arthur Grace. November: Clinical meeting. Dr. H. G. Wilson presented one case of fibrocystic disease of the pancreas and two interesting heart conditions. Dr. H. S. Patterson discussed the management of the premature infant and Dr. D. A. Carter showed a series of X-ray films. February (1951): Annual meeting and dinner at the Hotel Grande. March: Talking film on "Intussusception", with commentary by Dr. K. B. Fraser. April: Lecture, "The Administration of Anæsthetics and Treatment of Anæsthetic Emergencies", by Dr. Arnold Robertson. May: Lecture, "Cardiac Disease and its Management", by Dr. Ellis Murphy. June: Lecture, "Surgery in the Field", by Dr. Peter Row. July: Lecture, "Surgery of the Hand", by Dr. A. R. Murray. September: Lecture, "Ear, Nose and Throat Work and the General Practitioner", by Dr. S. C. Suggit.

It is desired to express the appreciation of members to: (*a*) the director and members of the Post-Graduate Medical Education Committee for their ready cooperation; (*b*) the visiting lecturers who instructed (and entertained) us so effectively during the year; (*c*) Mr. Ernie Bagnall for coming with several lecturers to work film and recording mechanisms; (*d*) the board, medical superintendent and matron of Ipswich Hospital for their courtesy in providing lecture room facilities and supper at the conclusion of meetings.

H. S. PATTERSON, President.
H. M. SAXBY, Honorary Secretary.

No reports have been received from the following local medical associations: Bundaberg, Gladstone, Lower Burdekin (Ayr), Maryborough, Rockhampton, South Burnett.

British Medical Association Building.

Investigation is being carried out regarding additional administrative accommodation and facilities being made available at British Medical Association House. Suggestions for improvements are being considered in view of the fact that erection of a new building appears to be somewhat in the dim and distant future. In the meantime office and library accommodation is inadequate and also space for records is limited. During the year the adjoining allotment was made into a car park for the convenience of members having temporary business to attend to in British Medical Association House, as the parking problem on Wickham Terrace is very acute. A refrigerator has been installed for the use of the staff.

The Bancroft Oration, 1951.

On Friday, June 1, 1951, in the main lecture theatre of the Medical School of the University of Queensland, the twenty-sixth Bancroft Oration was delivered by Professor Matthew J. Stewart, C.B.E., M.B., Ch.B., F.R.C.P. (Lond.), F.R.F.P.S. (Glas.), Emeritus Professor of Pathology of Leeds University, who gave a delightful dissertation on "Medicine in Pepys's Diary". The number present was 104. At the conclusion of the oration a vote of thanks, which was moved by Dr. K. B. Fraser and seconded by Dr. Alex. Murphy, was carried by acclamation, and the President, Dr. Glen V. Hickey, presented the Joseph Bancroft Memoral Medal to Professor Stewart.

Jackson Lecture.

The twenty-first lecture in memory of Ernest Sandford Jackson was delivered by Associate Professor M. F. Hickey, of the University of Queensland, on Friday, September 7, 1951, in the main lecture theatre of the Medical School. The subject of the lecture was "Genes and Mermaids: Changing Theories of the Causation of Congenital Abnormalities". There was an attendance of 80, who enjoyed the thought-provoking discourse. A vote of thanks to the lecturer was moved by Professor Neville G. Sutton, seconded by Professor H. J. Wilkinson and carried by acclamation.

Medical Benefits Fund of Australia, Limited.

The Queensland division of this fund commenced operations in Brisbane on July 1, 1950, and is under the guidance of a local executive committee consisting of Dr. Alan E. Lee (Chairman), Dr. J. R. Adam, Dr. H. W. Horn, Dr. A. D. A. Mayes and Dr. J. G. Wagner. The manager is Mr. K. J. Allison. The fund is progressing very satisfactorily, as is shown by a present enrolment of 10,500.

British Medical Agency of Queensland Proprietary, Limited.

A difficult year has been experienced by the Agency, which endeavours to meet members' requirements, whatever the nature. The steadily increasing rise in prices and, in most instances, shortage of supplies of general requirements have been met to some extent by maintaining stocks considerably in excess of those previously contemplated. Many doctors have derived considerable benefit, both financially and otherwise, as a result of forward planning.

Sales of practices have been maintained, although under normal conditions an increase would have taken place. Today's high property values and increasing costs of furniture and equipment, together with goodwill, present to all but a few a heavy financial burden for the initial years in a new practice.

There is an increasing demand for assistants, both city and country, and many positions of this nature remain available.

During the past few months there has been a reduced inquiry from oversea doctors wishing to migrate.

Financial results of the year are reported to be satisfactory.

Queensland Medical Finance Proprietary, Limited.

Many doctors have taken full advantage of the facilities offered, and funds at present available for additional advances are somewhat limited. Financed members are encouraged to redeem their loans as quickly as possible, thus reducing their interest payments and releasing moneys to assist other colleagues.

Members requiring financial assistance in the acquisition of a private practice should consult the finance company as to ways and means.

The University of Queensland.

British Medical Association (Queensland Branch): Medical Students Loan Fund.

The personnel of the committee of administration is as follows: Dr. G. A. Thelander (Chairman), Dr. E. S. Meyers (Dean of the Faculty of Medicine), Professor H. J. Wilkinson, Dr. Alex. Murphy, Dr. Arnold Robertson, a representative of the University of Queensland Medical Society (nominated annually by the Society) and ex-officio members of the Council. The fund now stands at £666 3s. 11d., including an amount of £600 invested in the Commonwealth Loan. During the year £75 2s. 6d. was donated by members of the Branch. The sum of £150 was loaned to a medical student to assist him in completing his course.

University of Queensland Medical Society.

Dr. W. H. Steel acts as liaison officer between the Branch Council and the Society. The following prizes were presented by the President-Elect of the Branch, Dr. K. B. Fraser, on February 2, 1951:

The Memorial Prize of the Queensland Branch of the British Medical Association: John Joseph Stumm was awarded the memorial prize for 1950 for the highest percentage in clinical medicine in the medical course of the University of Queensland.

Harold Plant Memorial Prize: On the recommendation of the Faculty of Medicine the 1950 prize was awarded to Derek Harry Meyers.

William Nathaniel Robertson Medal: Advice was received from the Registrar of the University of Queensland that the 1950 medal had been presented to Ralph Leonard Doherty.

Honorary Associate Members of the Branch.

The number of honorary associate members is 146; 38 were elected during the year, and 48 former associate members were elected to full membership on graduation.

Diplomas and Higher Degrees within the University of Queensland.[1]

A meeting of representatives of the university and the Queensland Branch of the British Medical Association was held in July, when it was resolved that a deputation consisting of members of the Faculty of Medicine and the Association approach the Government asking for assistance to adequately cope with the problem. The matter is still proceeding.

Post-Graduate Medical Education Committee.

The representatives of the Branch are Dr. J. R. S. Lahz, Dr. Alan E. Lee and Dr. H. R. Love.

The regulations relating to the Post-Graduate Committee (Schedule 5, University of Queensland) were amended giving the committee power to coopt additional members, and to make provision for the appointment of a Director of Post-Graduate Studies. These amendments were proposed by the Post-Graduate Medical Education Committee and approved by the Council of the Queensland Branch of the British Medical Association and the Senate of the university.

Members of the medical profession had the opportunity of hearing many eminent visitors from England and America. The Royal Australasian College of Physicians, Royal Australasian College of Obstetricians and Gynæcologists, the National University, the College of Radiologists (Aust. and N.Z.) and the Post-Graduate Federation arranged lectures covering a variety of subjects.

Sir Howard Florey, of the Australian National University Academic Research Advisory Committee, under the auspices of the National University, lectured on "Medical Research and the John Curtin Institute of Medical Research". Dr. W. Pickles, a general practitioner from Aysgarth, Yorkshire, gave three lectures of particular interest to general practitioners, "Epidemiology in Country Practice" and "Research in General Practice". The State Committee of the Royal College of Obstetricians and Gynæcologists invited Sir William Gilliatt to lecture on "Practical Points in Gynæcology". Professor D. M. Dunlop visited Brisbane under the ægis of The Royal Australasian College of Physicians as the Sims Commonwealth Travelling Professor for 1951. The titles of his lectures were "The Effects of Endocrine Glands on the Skin", "Changing Fashions in Medicine", and "Some Medical Aspects of Obstetrics and Gynæcology". Through the College of Radiologists (Aust. and N.Z.) the committee arranged the visit of Professor B. W. Windeyer to coincide with post-graduate week, when he gave a demonstration in radiotherapy and also delivered a lecture on "The Place of Radiotherapy in the Treatment of Malignant Disease". Professor Matthew J. Stewart and Dr. C. G. McDonald were other visiting lecturers for post-graduate week; the former spoke on "The Pathology of the Peptic Ulcer" and the latter on "Modern Views on Nephritis" and "The Visceral Neuroses: Their Management in General Practice". Both these visitors also took part in a pathological conference. Professor Brian Maegraith, who was invited to Australia by the National University, lectured in Brisbane on "The Treatment of Tropical Diseases". Mr. Naunton Morgan gave two lectures in Brisbane and one in Toowoomba, "The Treatment of Minor Rectal Diseases" and "Cancer of the Colon". Professor E. G. Dodds spoke on "The Present Position of Cancer Research".

Many of these lectures have been recorded and the committee is anxious that they should be circulated as freely as possible to country centres. The committee has arranged for any doctor from a country centre who wishes it, to be trained in the use of the machine while visiting Brisbane.

The committee wishes to thank those who made the following visits to country centres possible: Bundaberg, two visits, Dr. Norman Sherwood; Charleville, one visit, Dr. Derick Yeates; Ipswich, eight visits, Dr. K. B. Fraser, Dr. A. W. Robertson, Dr. Ellis Murphy, Dr. Peter Row, Dr. H. W. Horn, Dr. A. R. Murray, Dr. S. C. Suggit, Dr. T. V. Stubbs Brown; Lismore, one visit, Dr. Ellis Murphy and Dr. Alex Inglis; northern tours to Rockhampton, Mackay, Townsville, Innisfail and Cairns, Dr. W. G. Livingstone and Dr. S. C. Suggit, Dr. K. B. Fraser and Dr. T. V. Stubbs Brown; Nambour, two visits, Dr. L. D. Walters, Dr. C. Leggett; South Burnett, three visits, Dr. Ralph Thatcher, Dr. B. Courtice, Dr. T. Parry; south coast, five visits, Dr. G. H. Brandis, Dr. M. J. Gallagher, junior, Dr. J. R. Hutcheon, Dr. N. Gutteridge, and one recorded lecture; Downs and South Western (Toowoomba), five visits, Dr. David Jackson, Dr. Derik Yeates (medico-dental meeting), Dr. L. D. Walters, Mr. Naunton Morgan, Dr. H. W. Horn; Gayndah, one visit, Dr. E. R. W. Thomson.

The committee acknowledges with thanks the gift of the film "Intussusception" from Messrs. Nicholas Proprietary, Limited. This film is available for use in country centres, and the committee can arrange for films to be supplied from other post-graduate committees in Australia and the National Film Library, Canberra. At least three weeks' notice is required for the hiring of films.

Dr. A. V. Meehan is chairman of the committee, and the following are members of the committee, representing bodies interested in post-graduate medical education: Professor G. Shedden Adam, Professor A. J. Canny, Professor H. J. Wilkinson, Acting Professor Ellis Murphy, Dr. Athol Robertson, Dr. A. V. Henry, Dr. Grantley Stable, Dr. L. D. Walters, Dr. P. A. Earnshaw, Dr. A. J. Morton, Dr. A. Pye, Dr. R. G. Quinn, Dr. Alex. Murphy, Dr. A. E. Lee, Dr. H. R. Love, Dr. J. R. S. Lahz. All members of the committee are pleased to help doctors with post-graduate inquiries, which may also be referred to the director, Dr. David Jackson (telephone B 9513), at the Branch office.

Federal Medical War Relief Fund.

Local Committee of Management: Dr. J. G. Wagner (Chairman), Dr. F. W. R. Lukin (Honorary Secretary), Dr. Harold R. Love, Dr. J. V. Duhig, Dr. B. L. W. Clarke.

It is satisfactory to the trustees, and to those who have contributed to the fund, to know that four medical students, children of deceased medical officers, who were beneficiaries, have completed their medical course.

Members are reminded that this fund is still open to receive donations. The fund was established in 1946 for the purpose of assisting members of the profession who have been disabled and the dependants of those who have been killed as a result of enemy action.

[1] Required for registration purposes as specialists.

Federal Council of the British Medical Association in Australia.

On the retirement of Sir Victor Hurley as President, Dr. A. J. Collins was appointed to the position and came into office in February last.

The Federal Council met twice during the year, February 26 to 28 in Melbourne and September 10 to 12 in Sydney. At both meetings Dr. Alan E. Lee and Dr. H. W. Horn represented the Queensland Branch.

Australasian Medical Publishing Company, Limited.

Two meetings of directors were held during the year—one in Melbourne on February 26 and the other in Sydney on September 10, at which Dr. Alan E. Lee was present as representative of the Queensland Branch.

List of Members of the British Medical Association in Australia: Owing to increased costs the concessional rate of 2s. 6d. to members has been discontinued and a flat rate of 10s. is now being charged.

QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION (INCORPORATED).

Balance Sheet as at November 15, 1951.

	£ s. d.	£ s. d.		£ s. d.	£ s. d.
Fixed Liabilities—			**Fixed Assets, at cost, less depreciation—**		
Loan from Queensland Medical Land Investment Company, Limited		4,650 0 0	Land and Buildings—		
Current Liabilities—			B.M.A. House .. £2,251 1 6		
Subscriptions for Remittance to—			Bartley Street Property 1,520 12 0		
British Medical Association, London	39 4 3			3,771 13 6	
Australasian Medical Publishing Company, Limited, Sydney ..	22 12 6		Architects' Fees—preparing plans for prospective new building, at cost	300 0 0	
		61 16 9	Library, at valuation	150 0 0	
Association Funds—			Typewriters, Bookcases, Balopticon and Furniture	171 4 3	
Sinking Fund	2,524 3 0		Bancroft Medals and Collar	3 7 6	
Superannuation Fund	699 8 6				4,506 10 0
	3,223 11 6		Queensland Medical Land Investment Company, Limited—5,950 Shares of £1 each paid to 10s. each, at cost	2,975 0 0	
Accumulation Fund	11,771 1 5		British Medical Agency of Queensland Proprietary, Limited—258 Shares of £1 each, fully paid, at cost	258 0 0	
		14,994 12 11			3,233 0 0
			Australasian Medical Publishing Company, Limited, Sydney—		
			5% Series "C" Debentures, at cost	50 0 0	
			5% Series "D" Debentures, at cost	5 0 0	
			3½% Series "E" Debentures, at cost	1,400 0 0	
			Advance not yet converted to Series "E" Debentures	57 4 6	
					1,512 4 6
					9,251 14 6
			Current Assets—		
			Australian Consolidated Inscribed Stock, at cost—		
			3¼% maturing 1959 .. .. £1,500 0 0		
			3¼% maturing 1960 .. .. 300 0 0		
				1,800 0 0	
			English, Scottish and Australian Bank, Limited	4,974 9 7	
			Sundry Debtors	428 0 0	
			Electric Light Deposit	6 0 0	
			Cash	22 14 1	
					7,231 3 8
			Fund Investments—		
			Sinking Fund—		
			Australian Consolidated Inscribed Stock—		
			£280 3½% maturing 1951, at cost	278 3 3	
			£90 3¼% maturing 1960, at cost	90 0 0	
			£2,000 3¼% maturing 1964, at cost	2,000 0 0	
			Commonwealth Savings Bank, Brisbane	155 19 9	
				2,524 3 0	
			Superannuation Fund—		
			Commonwealth Savings Bank, Brisbane	699 8 6	
					3,223 11 6
	£19,706 9 8				£19,706 9 8

We have compared the above Balance Sheet with the books, accounts and vouchers of the Queensland Branch of the British Medical Association (Incorporated), and have obtained all the information and explanations we have required.

In our opinion, the Balance Sheet is properly drawn up to exhibit a true and correct view of the state of the Association's affairs as at November 15, 1951, according to the best of our information and the explanations given to us, and as shown by the books of the Association.

The Register of Members and other records which the Company is required to keep by the Companies Acts of 1931-1942, or by its Articles, have, in our opinion, been properly kept.

R. G. GROOM AND COMPANY,
Chartered Accountants (Aust.),
Auditors.

F. LUKIN,
Honorary Treasurer.

Brisbane,
November 15, 1951.

FOR THE RELIEF of bronchial asthma, a choice of 'Neo-Epinine' preparations is available. Almost immediate relief is obtainable by oral inhalation of Spray Solution No. 1, a plain 1 per cent. aqueous preparation. The 20 mgm. compressed products, placed beneath the tongue, act within 5-10 minutes. Stubborn cases need oral inhalation of No. 2 Compound Spray Solution which contains 1 per cent. of drug with 2 per cent. of papaverine and 0·2 per cent. of atropine methonitrate.

'Neo-Epinine'
BRAND
ISOPRENALINE SULPHATE
IN THE TREATMENT OF ASTHMA

BURROUGHS WELLCOME & CO. (AUSTRALIA) LTD., SYDNEY, N.S.W.
(Incorporated in England)

PROCILLIN* (D·H·A)

Procillin (D·H·A) is a preparation **of procaine-penicillin G with 2% aluminium monostearate in oil.** It contains 300,000 units of penicillin in each c.c.

This type of vehicle was suggested by Buckwalter and Dickison.

Thomas, Lyons, Romansky *et al.* in 1948 found that single injections of this type of preparation produced penicillin blood concentrations as below (summarized):

Time after administration.	Number of patients.	Average blood level.	Percentage of patients with blood level 0·03 or higher.
36 hours	182	0·076	97·3
48 hours	206	0·091	92·1
72 hours	190	0·077	93·2
96 hours	**173**	**0·057**	**86·7**

They found **no untoward effects or undue irritation** apart from the occasional allergic reactions to penicillin.

Procillin is now available in a DISPOSABLE PLASTIC SYRINGE COMPLETE WITH NEEDLE ATTACHED.

This product presents one dose of Procillin ready for injection and is listed under the Pharmaceutical Benefits Act.

* Registered Trade Marks.

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DRUG HOUSES OF AUSTRALIA LTD.

namely:

A. M. Bickford & Sons Ltd.	**Adelaide**
Elliotts & Australian Drug Pty. Ltd.	**Sydney & Newcastle**
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Felton, Grimwade & Bickford Pty. Ltd.	**Perth & Kalgoorlie**
Felton, Grimwade & Duerdins Pty. Ltd.	**Melbourne**
Taylors Elliotts Pty. Ltd.	**Brisbane, Townsville & Rockhampton**

The company is also undertaking the publication of a "Medical Directory of Australia", which should be ready for distribution early in the new year. We are grateful to the directors for including the Branch in the distribution of medical books submitted to the Editor for review.

"The Medical Journal of Australia."

One of the oustanding achievements of THE MEDICAL JOURNAL OF AUSTRALIA during the year was the Commonwealth Jubilee Number published on January 6, 1951, and we wish to congratulate the Editor and his staff on this excellent publication.

Australasian Medical Congress (British Medical Association).

Seventh Session, Brisbane, 1950.

The following is the text of a letter received from the General Secretary of the Federal Council under date March 8, 1951:

QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION (INCORPORATED).

Revenue Account for Twelve Months ended November 15, 1951.

EXPENDITURE.	£ s. d.	£ s. d.
November 15, 1951—		
To Branch Expenses	2,180 1 6	
„ Library Expenditure	214 3 9	
„ Depreciation of Equipment	108 7 9	
		2,502 13 0
„ Provision for Staff Superannuation		80 0 0
„ Federal Council—Capitation Fees		880 19 0
„ B.M.A. House and Bartley Street Property—		
Depreciation	103 6 6	
Other Expenses	626 0 5	
	729 6 11	
Less Rents	559 14 6	
		169 12 5
„ Net Surplus for Year, transferred to Accumulation Account		1,743 9 1
		£5,376 13 6

REVENUE.	£ s. d.	£ s. d.
November 15, 1951—		
By Branch and Organization Fund—Subscriptions		4,750 14 6
„ Portion of Journal Subscriptions, to be invested in Australasian Medical Publishing Company, Limited, Sydney, Series "E" Debentures		229 2 6
		4,979 17 0
„ Interest—		
Commonwealth Government Inscribed Stock	58 10 0	
Australasian Medical Publishing Company, Limited, Debentures	50 4 4	
		108 14 4
„ General—		
Proceeds Clerical Assistance and Sundries	282 7 11	
Sale of Diet Sheets and Lists of Members	5 14 3	
		288 2 2
		£5,376 13 6

GENERAL FUND.

Statement of Receipts and Payments for Twelve Months ended November 15, 1951.

RECEIPTS.	£ s. d.	£ s. d.
November 16, 1950—		
To Funds at November 16, 1950—English, Scottish and Australian Bank, Limited—Current Account	3,566 18 0	
Cash	24 15 1	
		3,591 13 1
November 15, 1951—		
To Subscriptions—Queensland Branch Subscriptions	3,234 4 6	
Organization Fund, Queensland Branch	1,516 10 0	
For Remittance to British Medical Association, London	1,226 19 3	
For Remittance re Medical Journal	975 11 3	
		6,953 5 0
„ General—		
Rents—B.M.A. House £329 10 6		
Bartley St. Property 214 4 0		
	543 14 6	
Clerical Assistance and Hire of Office Equipment	214 0 0	
Interest on Commonwealth Inscribed Stock	58 10 0	
Australasian Medical Publishing Company, Limited—Interest on Debentures	50 4 4	
Proceeds Sale Diet Sheets, Lists of Members and Sundry Income	81 2 2	
		947 11 0
		£11,492 9 1

PAYMENTS.	£ s. d.	£ s. d.
November 15, 1951—		
By Amounts Remitted on Account of Subscriptions Collected to—British Medical Association, London	1,222 5 3	
Australasian Medical Publishing Company, Limited, Sydney, for Publication of Journals	755 7 9	
Applied to Series "E" 3½% Debentures	229 2 6	
		2,206 15 6
„ Federal Council—Capitation Fee (1951)	882 0 0	
Less Refund (1950)	1 1 0	
		880 19 0
„ Branch Expenses—Salaries, Audit and Honoraria	1,531 7 8	
Printing, Stationery, Postages and Telephone	470 0 5	
Expenses, Bancroft Oration	64 17 6	
Bank Charges, Lighting and Sundries	112 13 5	
		2,178 19 0
„ B.M.A. House Expenses—Rates to December 31, 1951	211 18 11	
State Land Tax, Insurance and Maintenance	368 15 11	
	580 14 10	
„ Bartley Street Property—Rates to December 31, 1951	23 6 2	
Insurance and Sundries	21 19 5	
	45 5 7	
		626 0 5
„ General—Library Expenditure	214 3 9	
Purchase—Equipment	308 7 9	
Transfer to Superannuation Fund	80 0 0	
		602 11 6
„ Funds at November 15, 1951—English, Scottish and Australian Bank, Limited, Brisbane	4,974 9 7	
Cash	22 14 1	
		4,997 3 8
		£11,492 9 1

I have been requested by the Federal Council to ask that you will kindly convey to the President, Dr. Alex. Murphy, the Honorary Secretary, Dr. W. J. Saxton, the Honorary Treasurer, Dr. H. W. Horn, and the members of the Executive Committee of the Australasian Medical Congress (British Medical Association), Seventh Session, the sincere congratulations of the Federal Council on the successful organization of the congress.

The appreciation of many members and of overseas visitors has been conveyed to me personally, and I would like to pay my personal tribute to the executive officers for the very efficient manner in which congress was organized.

Eighth Session, Melbourne, August 22 to 29, 1952.

The Australasian Medical Congress (British Medical Association), Eighth Session, will be held in Melbourne from August 22 to 29, 1952. Dr. W. J. Saxton has been appointed Honorary State Secretary for Queensland. The Victorian Committee of Congress has our best wishes for a successful session in 1952.

Social.

The annual British Medical Association ball was held at Lennon's Hotel on Wednesday, May 30. Dr. K. B. Fraser and Dr. B. L. W. Clarke were conveners. There was an attendance of about 130. Official guests included Professor Matthew J. Stewart and Mrs. Stewart and Dr. C. G. McDonald and Mrs. McDonald, of Sydney.

Prior to the Bancroft Oration, the President arranged a small dinner party which took place at the National Hotel, the guest of honour being Professor Matthew J. Stewart.

Message to His Majesty the King.

In September a message was sent to His Majesty the King expressing wishes for speedy recovery from his illness, to which an appropriate acknowledgement was received.

Conclusion.

The most important development during the year has been the implementation of the pensioner medical service. In spite of some drawbacks this scheme is working reasonably well.

Another momentous step is the change over from capitation to fee-for-service basis for friendly society practice. Although this will not come into operation until the new year, the preliminary steps have been taken and we feel confident the new method will be a great improvement.

Dr. Adam relinquishes the office of Honorary Secretary and his place will be taken by Dr. Saxton, well known for efficient handling of the 1950 congress. During his term of three years Dr. Adam has not missed a Council meeting and the amount of work he has done is amazing. I feel sure that we all owe him a great debt of gratitude. To Mrs. Spooner, our Secretary, we also owe a great deal—more than mere words can express, and she was ably assisted by the staff.

Our relations with the Health Department, our various allied organizations and the Press have been pleasant throughout the year.

I welcome my successor, Dr. K. B. Fraser, to the chair. I realize that the same assistance will be extended to him and I wish him a happy and successful year of office.

GLEN HICKEY,
President.

BALANCE SHEET AND FINANCIAL STATEMENT.

The balance sheet and financial statement as at November 15, 1951, which had previously been circulated amongst members, was adopted on the motion of Dr. F. W. R. Lukin, seconded by Dr. B. L. W. Clarke.

AMENDMENT OF BY-LAWS.

On the motion of Dr. F. W. R. Lukin, seconded by Dr. H. W. Horn, a number of amendments to the by-laws of the Branch as previously circulated amongst members were adopted.

MEMORIAL ROLL.

The Memorial Roll of the Queensland Branch was then read by the President, the members standing.

OFFICE BEARERS.

The President then announced the names of the office bearers for the ensuing years:

President: Dr. K. B. Fraser.

Past President: Dr. Glen V. Hickey.

President-Elect: Dr. T. V. Stubbs Brown.

Honorary Secretary: Dr. W. J. Saxton.

Members of Council: (Elected in 1950 for two years) Dr. Felix Arden, Dr. B. L. W. Clarke, Dr. H. W. Horn, Dr. Alan E. Lee, Dr. F. W. R. Lukin, Dr. H. S. Patterson, Dr. H. W. Steele. (Elected by ballot in 1951 for two years) Dr. J. R. Adam, Dr. B. N. Adsett, Dr. H. W. Anderson, Dr. H. R. Love, Dr. A. D. A. Mayes, Dr. H. M. Saxby, Dr. J. G. Wagner.

ETHICS COMMITTEE.

On the motion of Dr. K. B. Fraser, seconded by Dr. F. W. R. Lukin, the following members were reelected to the Ethics Committee for 1952: Dr. G. W. Macartney, Dr. Val McDowall, Dr. L. J. J. Nye, Dr. J. J. Power, Dr. R. G. Quinn, Dr. Norman Sherwood and Dr. M. Graham Sutton.

ELECTION OF AUDITORS.

Messrs. R. G. Groom and Company were reelected auditors for the ensuing year.

INDUCTION OF PRESIDENT.

Dr. Glen V. Hickey then inducted the President for 1952, Dr. K. B. Fraser. Dr. Fraser thanked the members for his election.

PRESIDENT'S ADDRESS.

Dr. K. B. Fraser delivered his President's address (see page 57).

VOTES OF THANKS.

Dr. T. V. Stubbs Brown proposed a vote of thanks to the retiring members of the Council and to the office staff. Dr. Glen V. Hickey responded.

Out of the Past.

In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.

DR DAWSON AND HIS ONEROUS MILITARY DUTIES.[1]

[Australian Medical Journal, September 1, 1847.]

We are not aware that the late Deputy Inspector of Hospitals, although the Government establishments in his department were much more numerous and extensive than at present, found it necessary to have or was allowed any assistance in performing the duties of his office. Nevertheless it appears that, notwithstanding the reductions in the convict establishments, and the sending away of half the troops, Dr Dawson finds the duties so laborious, that he has been allowed assistance to get through them, a staff surgeon of the second class having lately arrived in the colony for that purpose.

True Dr D has found time to act as President of the Medical Board—to perform the duties of a paid servant of an assurance company—to engage in all the occupations of a general practitioner, midwifery included—to run about at the Governor's tail on all occasions—and he will doubtless when appointed Chief Inspector of Lunatic Asylums find time, at least to pocket the salary and exercise the patronage attached to the office: but—he cannot perform his military duties—albeit they are all but nil without assistance?

Jack, what are you doing there?—Nothing father—What's Tom doing?—helping me.

So it is with Dr Dawson—he has nothing to do and he must have help to do it.

---

[1] From the original in the Mitchell Library, Sydney.

This joke, however, is a more serious matter to us than is at first sight apparent. By it, another is added to the number of officials to compete with us civilians in private practice. We are not already sufficiently injured in this way, but another well paid official must be brought in to share the spoil and take four or five hundred pounds a year more from us, and this for no other purpose apparent to us than to enable Dr Dawson to "grip fast" for himself or his military proteges every place of honour or emolument the local government can be induced by his advice to create. Well may we exclaim with Cassius:

> "Now in the names of all the Gods at once
> Upon what meats doth this our Cæsar feed
> That he is grown so great?"

Let him proceed unchecked in this course of monopoly and ere long he will

> "bestride our narrow world
> Like a colossus: and we petty men may walk
> Under his huge legs and peep about,
> To find ourselves dishonourable graves".

Would that our brethren were mindful that

> "Men at some times are masters of their fates"

and that

> "The fault is not in our stars
> But in ourselves that we are underlings".

Correspondence.

CROSS-INFECTION OF SURGICAL WOUNDS.

SIR: Dr. Phyllis M. Rountree is to be commended for her important contribution on "Cross-Infection of Surgical Wounds" in the December 8 number of THE MEDICAL JOURNAL OF AUSTRALIA. She has indicated briefly and clearly the presence of a new problem of first-rate magnitude. In the last two or three years, since the employment of antibiotics has become almost universal, surgeons have become increasingly aware of the overwhelming incidence of antibiotic-resistant organisms in the bacterial population of their wards.

This is a problem which will have to be faced, and there are many aspects which seem well-nigh insoluble under present conditions.

Not only is cross-infection rampant, as Dr. Rountree has so plainly shown, but it probably occurs on a scale unknown a decade or two ago.

Dr. Rountree rightly advocates the adoption of the dressing technique advocated by the Medical Research Council, but the fact is that in many hospitals, both public and private, the technique of doing dressings falls far short of this ideal. It is indeed doubtful whether we have maintained the standards of a few years ago.

This is due to innumerable causes, varying from hospital to hospital, and included among which are economic factors, overcrowding of wards, shortages of equipment, inadequacy of sterilizing facilities, lack of running water, staff shortages, frequent changes of nursing staff, and a low ratio of trained staff.

Another very real source of cross-infection is the chronic patient who remains in an acute surgical ward for months or even years owing to the absence of any suitable method of disposal. One such patient can constitute a permanent source of virulent antibiotic-resistant organisms, and the segregation of such patients is an obvious need.

Another loophole is our blind acceptance of the efficacy of various antiseptics based on the claims of manufacturers or on work done some years ago when the prevalent organisms were different. The efficiency of many antiseptics is in fact open to serious doubt. Certainly brief immersion of an imperfectly cleaned or contaminated instrument or tube of catgut is unlikely to accomplish much, and this is especially true of *Pseudomonas pyocyanea*.

It is comparatively easy to indicate directions in which these matters could be improved, but it is not easy to get governments or hospital boards to be interested in spending money on technical improvements while they are seriously preoccupied with other major and more visible problems of policy, finance and supply.

This letter is in no sense a criticism of Dr. Rountree's article, but is rather intended as a plea that she should continue this important line of investigation.

It is obviously undesirable that the views expressed in this letter should be interpreted as being related to any one hospital or hospitals, and I must therefore ask permission to sign myself

Yours, etc.,

December 10, 1951. "F.R.A.C.S."

APPENDICITIS IN CHILDHOOD.

SIR: Dr. Edward Stuckey's paper, "Appendicitis in Childhood" (THE MEDICAL JOURNAL OF AUSTRALIA, December 15, 1951), raises the question of the best method of dealing with the appendix stump. Dr. Stuckey uses the method of crushing, followed by ligation and invagination with a purse-string suture and (I quote): "This is said to produce a tiny abscess in the wall of the caecum, which ruptures into the lumen. In practice it never causes any worry."

With the latter statement I wish to disagree, as in my experience, and I feel sure in the experience of other surgeons, there has been on rare occasions a complicated convalescence as a result of, in my opinion, the use of the above method. Dr. Stuckey does not enter into detail with regard to morbidity.

If an infected blood clot or abscess should form around the appendix stump, it will more easily burst through the purse string into the peritoneal cavity (and with some suddenness) than through the ligature on the stump into the caecal lumen. Having witnessed this very phenomenon at laparotomy for pelvic peritonitis after appendicectomy for non-acute appendicitis—the purse-string suture was found undone and infected clot surrounded the appendix stump—I decided that the technique could be revised with advantage. Accordingly two plain catgut purse strings were used over the ligated stump, but this was discarded in view of the theoretical possibility of intussusception of the stump. Next a single purse string of fine chromicized catgut over the ligated stump was used (and I feel that if a purse string is to be used at all, it should be of this material or of some non-absorbable suture rather than plain catgut). Next a method was used whereby the appendix was clamped with the tip of curved Howard Kelly forceps, cut, swabbed, and the stump inverted into the caecum (without ligation) by a continuous fine chromicized suture. This latter method was abandoned when it became necessary to subject a patient to a second operation to secure a small artery in the stump, which had bled extensively into the large bowel.

Therefore I have had recourse to the time-honoured method of ligation of the stump and carbolization without a purse-string suture. When the stump is returned to the abdomen it can be expected to be out of harm's way posteriorly in the ileo-caecal angle.

Yours, etc.,

220 Brunker Road, F. J. GRAY.
Adamstown,
New South Wales.
December 17, 1951.

SIR: Several features of the article "Appendicitis in Childhood" from the Royal Alexandra Hospital for Children call for some comment.

No mention is made of the value of the mercury-weighted intestinal tube in obstruction due to recent adhesions. Intestinal intubation became a practical possibility when this type of tube superseded the Miller-Abbott tube four years ago. Experience has confirmed the claims of Wangensteen, Harris and Cantor that a large proportion of cases with either adynamic or dynamic obstruction responds to intestinal intubation, rendering operation completely unnecessary.

Figures for perforation given in the article are 22·9% for Brooklyn, 34·4% for Detroit, 4·6% for Sydney. Then follows the surprising statement: "An unknown percentage of cases classified as 'acute without perforation' were, in fact, early cases of perforation. . . ." A similar statement in a court would be sufficient to throw doubt on the credibility of a witness.

The statement is made: "Seldom can one expect the pathologist to substantiate a diagnosis of 'subacute' or 'chronic' appendicitis. These terms are used in a clinical, everyday sense rather than in a true pathological sense."

Appendicitis used to mean inflammation of the appendix. Perhaps the writer would favour us with a new and better definition. In the past, a criterion of correct diagnosis was that it could be confirmed by the pathologist. Is this now to be regarded as punctilious?

Appendicectomy is justified only by the pathologist and the follow-up clinic. Trends of thought which ignore the one and despise the other lead the unwary surgeon to the error of the unnecessary operation.

Yours, etc.,

The Royal Newcastle Hospital, JOHN SMYTH.
Newcastle,
New South Wales.
December 20, 1951.

THREAD-WORMS.

SIR: For months the chemist's child had been suffering from thread-worms, and at last in desperation the doctor was called in. "Surely", said he, "with your shop full of syrups, powders, tablets and medicines you don't need me?" "To tell you the truth", replied the chemist, "I've tried them all, but he still has worms." It was then explained that thread-worms occurred only in persons whose diet contained an excess of carbohydrate and a deficiency of protein, and if this was rectified by reducing the sugar and starch intake and increasing the protein, for example, replacing the breakfast cereal with an egg, the worms would rapidly disappear without any other treatment. The chemist was frankly sceptical, but decided to humour the doctor. When next they met the chemist reported: "Not a worm; I'm astounded." The doctor then gently suggested that in future the chemist would undoubtedly now inform his customers that medicines for worms were quite useless and that a correct diet was all that was necessary. The chemist slyly chuckled and retorted with Miss Doolittle's celebrated remark.

As a rule children only are affected, but at one time pregnant women also commonly suffered from threadworms because of the low-protein high-carbohydrate diet then fashionable; nowadays the condition is rarely seen in these adult patients.

This observation of the effect of diet on thread-worms was made so long ago and the treatment has been so consistently and entirely efficacious that it was surprising to hear a pædiatrist say only yesterday that "they're devils to get rid of, no matter what you use". If this is so, should we not try proteins rather than poisons, and if successful, consider thread-worm infection as a dietary disease?

Yours, etc.,

Melbourne, SEYAH NOVI.
Victoria,
December 18, 1951.

CONGENITAL DISLOCATION OF THE HIP JOINT.

SIR: Congenital dislocation at the hip joint was one of the subjects discussed at the last annual meeting of the Australian Orthopædic Association in Melbourne. It was stressed that since the difficulties associated with the correction of this serious defect increase with the growth of the child, its detection at the earliest opportunity is a matter of great importance to sufferers and parents. It was pointed out that a practical and valuable step towards attaining this end is at hand if general practitioners and those whose duties bring them in contact with newborn children will be willing to cooperate and assist in the early detection of this congenital dislocation. I was therefore instructed to seek your help in promulgating this request through your journal.

In order to assist the detection of the defect the following points are suggested. The first requirement is to keep in mind the fact that congenital dislocation of the hip occurs in a proportion of children born in this, as in every other, country, and that the chief incidence is in female children. Suspicion of its possible presence should be aroused if the child, particularly if it is a female, shows any obvious defect, for example, a club foot, congenital absence of portion or whole of a limb *et cetera*, and if a previous child of the family has suffered from this defect. Inspection of the child may not yield any indication of the trouble, but examination, a matter of a moment, for any telescoping, that is, upward excursion of the limb at the hip joint with the limb flexed at this joint whilst the pelvis is firmly fixed, may so arouse suspicion as to justify any examination by X rays. In any case, a fruitless radiographic examination is of less moment than a dislocation which only declares itself when the child, after delayed walking, develops an obvious limp.

The members of our association feel that this is a matter of great importance, and urge the cooperation of their colleagues in attempts to better the results of treatment of this grave disability.

Yours, etc.,

A. R. HAMILTON,
Honorary Secretary, Australian
135 Macquarie Street, Orthopædic Association.
Sydney,
December 12, 1951.

CLINICAL OBSERVATIONS ON A SERIES OF CASES OF ADVANCED MALIGNANT DISEASE TREATED WITH ANTIBIOTICS AND ACTH.

SIR: May I comment on the article by Maguire and McElhone in the journal of December 8, which refers to the treatment of malignant disease with antibiotics and ACTH. The authors do not claim to have found a cure for cancer, but they do imply that they are able to control the disease (as, for instance, diabetes or pernicious anæmia can be controlled by modern treatment), so that the patient is able to carry on a normal life and live in comfort for many years.

The absurdity of this suggestion is obvious from the fact that the authors commenced their experiments in September, 1951, and their experience of this form of treatment is therefore limited to a few weeks.

Unfortunately THE MEDICAL JOURNAL OF AUSTRALIA is read by others than medical practitioners, and extracts from the article by Maguire and McElhone have appeared in the lay Press in Western Australia, and the public has been widely informed that the Sydney doctors using this new form of treatment can now control cancer and enable their patients to lead normal lives, just as the diabetic patient, properly treated, can live without serious inconvenience from his disease.

The reactions of the cancer victim, and of his relatives, on reading articles of this kind can be easily imagined. We doctors in Western Australia are already being asked for the names and addresses of the Sydney specialists who have discovered this new and wonderful treatment for cancer.

The original article offers no scientific evidence that the treatment with ACTH and antibiotics has any effect whatever on malignant disease. The results achieved in the four cases described in detail could all be due to the clearing up of the secondary infection which was obviously present in every case, and which surely should have been dealt with before any attempt to evaluate in such patients a new method of treating malignant disease. Indeed, it is difficult to understand why, if these patients were receiving any medical care at all, they were allowed to drift into a condition in which they were dying, not from their malignant disease, but from a readily controllable complication.

ACTH is a valuable addition to our therapeutic armamentarium, and may prove eventually to be much more than that. It would be most unfortunate if the wishful thinking which is so obvious in Dr. Maguire's paper should be allowed to discredit, in the eyes of the public, not only ACTH, but also the medical Press, and indeed the medical profession of Australia.

Yours, etc.,

260 Saint George's Terrace, H. S. LUCRAFT, F.R.A.C.P.
Perth,
Western Australia.
December 31, 1951.

SIR:

"Be not the last by whom the new is tried
Ner yet the first to cast the old aside."

Though mindful of having paraphrased the original, I had given Mr. Hallstrom the above couplet at the outset of his sponsoring of cancer therapy with ACTH and antibiotics. I was prompted to do so since I was prepared to make available to him, in case it was in short supply, a quantity of ACTH which had been given to me for clinical research

through the kindness of Pacific Laboratories, Richmond, California, an implied understanding being that such treatment be subject to the requisite laboratory and clinical control. Whether on the advice of Dr. Maguire, or because Mr. Hallstrom, like a true philanthropist, preferred to pay for ACTH, since it was available, the offer was not accepted.

Since I still hold a considerable portion of ACTH I am deeply concerned that it be put to proper use, my main motivation being towards an elucidation and understanding of the physiologic and pharmacologic mechanisms of ACTH and the adrenal steroids, and I must admit, so far, to much frustration in my pursuit of such an objective.

Whilst heartily congratulating Dr. Maguire and Dr. McElhone on their zeal and enterprise and the stimulus provided by their paper, one must nevertheless yearn for that clinical and experimental sophistication such as a suitably equipped ACTH research unit would provide. As an example it is rather naïve to speak of dosage of ACTH as though it could be handled and determined with some degree of confidence, if not certainty, after trial on a handful of patients. Even in the best equipped processing laboratories there is frequently a *plus* or *minus* potency factor in any batch of ACTH and, not infrequently, contamination with unpredictably acting metabolites. So that, apart from the doctor and patient equation factor, research would require that any batch of ACTH be submitted to the closest scrutiny by way of eosinophile counts *et cetera*, before any inference as to dosage could be drawn in respect to this precious substance.

When in San Francisco last year I called on Dr. Chaoh Li, Professor of Biochemistry, University of California, who was the first to make ACTH from sheep pituitary glands, and, as a consequence, an American firm became interested in securing such glands, sending in return the finished product, pending such time as the necessary machinery for its manufacture could be set up in Australia.

I note that Dr. Morgan says that the Commonwealth Serum Laboratories are making "sizeable" quantities of ACTH. Having seen something of the intricacies of the collecting and processing of pituitary glands, I, for one, am extremely doubtful that even the skill and technological resources of the Commonwealth Serum Laboratories can provide, in the immediate future, that amount of ACTH adequate, not only for Australian medical research, but for stockpiling in case of war. Australia is singularly fortunate in being in a position to trade in her sheep pituitary glands for the furtherance of this aspect, little alone earn dollars, and it is to be hoped that our authorities will hurry up this project.

Yours, etc.,

149 Macquarie Street, W. J. McCRISTAL.
Sydney,
December 23, 1951.

RESULTS OF SUBTOTAL GASTRECTOMY FOR PEPTIC ULCER: A REVIEW OF SIXTY CASES.

SIR: Mr. Graydon Brown's article on gastrectomy (THE MEDICAL JOURNAL OF AUSTRALIA, August 11, 1951) recorded an eminently successful series of sixty operations. In doing so he expressed with some emphasis certain views on peptic ulceration and outlined certain details of surgical technique which I think invite comment.

His contention that complicated or penetrating ulcers never heal under medical treatment is, as any gastric physician knows, but an admission of inadequate medical treatment. Healing of the gastric ulcer can be obtained by the usual medical measures supplemented by regular gastric suction from 8 p.m. to 8 a.m. in the more intractable cases. And this applies largely to the duodenal type also. I have at times, in the presence of giant gastric ulcers, supplemented the medical treatment by performing a valvular enterostomy whereby the patient could be fed and the stomach completely rested. This has never failed to effect healing and liberation of the stomach from the neighbouring organs, and it converted what would have been a relatively dangerous operation into a relatively safe one.

Patients suffering from intractable peptic ulcers are often found to be subjects of some other grave disease—pulmonary tuberculosis, nephritis or ulcerative colitis *et cetera*. These diseases constitute a potent complication of the peptic ulcer and can ensure its intractability. I may also add, however, that previous surgical interference can also promote intractability by creating artificial difficulties impossible to remedy by other than surgical means. In my experience therefore the question of intractability has seldom arisen.

Mr. Graydon Brown's method of treatment of gastroduodenal hæmorrhage should be supplemented by ligature of the main vessel supplying the part, as otherwise a further vascular erosion may occur with fatal results. And surely he is not going to surrender to the physician a patient suffering prolonged or repeated hæmorrhage from a ruptured œsophageal varix.

His views on anæsthesia have been answered in his usual forthright manner by Mr. Kinsella—that alert gastric custodian prone to pounce on anyone who, in his opinion, proposes to mishandle a stomach or decry his favourite anæsthetic. I endorse Mr. Kinsella's views (THE MEDICAL JOURNAL OF AUSTRALIA, September 15, 1951) and would add that the addition of a general anæsthetic to supplement local anæsthesia is in the average instance but a concession to the impatience of the surgeon.

Routine drainage of the anastomotic site and site of the duodenal stump will not commend itself to any experienced surgeon. The former should never be necessary, whilst drainage of the duodenum is the correct procedure if the integrity of the duodenal stump is in doubt. In fact Mr. Graydon Brown's record of ruptured stumps suggests that his method of drainage may have provoked the complication that he hoped to avoid.

I do not know what purpose was served by quoting statistics of "operations performed by election", thus excluding the mortality rates of the more difficult gastrectomies. If we all treated our statistics in this merciful manner we could no doubt feel complacent about our results. I hope for the sake of the interest that his records will in future excite and their value in assessing his methods he will not have recourse to such a statistical procedure, for that is a statistic to end statistics.

Finally I agree with Mr. Doyle (THE MEDICAL JOURNAL OF AUSTRALIA, December 8, 1951) that Mr. Graydon Brown's record is a matter for congratulation, but I entirely disagree with him that it should be exempt from criticism on that account.

Yours, etc.,

Queen Street, HENRY J. WINDSOR.
Brisbane,
December 18, 1951.

TENDENCIES IN MEDICAL PRACTICE TODAY.

SIR: The old family doctor is on his way out. The modern tendency is to expand partnership practices into group practices and for individual doctors to take partners and assistants, and more and more partnerships are coming to some "working arrangement".

This lightening, or sharing, the burden of private practice is in itself excellent for the doctors' freedom, and theoretically benefits the patient by ensuring a continuous service and making other opinions available without extra cost to the patient. This tendency to group practice was given great impetus during the last war when it was found that rostering or zoning was workable, not only in bread and milk supplies, but also for medical attention.

Like the housewife, the patient is not always pleased. In some cases, a new attitude is being evolved by the doctors towards their patients just the same as a new attitude is being developed by the supplier to the consumer. Doctors have been quick to follow up the advantages gained during the war when regimentation of the patients, and indeed of our whole lives generally, could be justified to a large extent.

Real emergencies in private practice are comparatively few, except in very closely settled areas where the number of doctors is proportionately higher. Although these occasions when a doctor's services are really urgently required are few, the doctor is, after all, the only one really capable of saying whether his services are urgently required, and this is a fact which he often forgets. "Disease knows no holiday", and in private practice today, the chances of the patient being attended to by his "own" doctor "out of hours" is inversely proportional to the efficiency of the rostering within a group of medical practitioners.

The lack of interest (sometimes only apparent) taken by the "rostered" doctor is largely an outcome of his background of ethics, which makes taboo the treating of a colleague's patients unless it is in the form of confirming

his diagnosis and continuing his treatment. However, it is often due to something far less excusable—a disinclination to accept the added responsibilities of his "freedom". This attitude largely offsets the apparent advantage of the patient of having several opinions and skills available to him.

In a group where each doctor shares equally in the practice or according to his investment, there is little point in adding to the number of his patients by offering better attention. It will not benefit him financially by increasing the number of his patients and will only increase his own work and risk the resentment of his colleagues.

The facilities available at district and general hospitals are often too readily taken advantage of by private practitioners. Specialists' services and investigations at the hospital are often used as an end in diagnosis rather than a means of an end. It is easier to write out a chit for an X ray and convey the results of this investigation to the patient than to take a history and carry out an examination. Patients are becoming to have more faith in these investigations than in their own doctors. The most important thing in doctor-patient relationship is the bond of confidence and understanding between them. Doctors are tending to destroy this bond by referring their patients to impersonal investigation without first studying the patient and the problem. Thus the patients are becoming to consider their doctor merely as an intermediary for having their complaints diagnosed and treated.

Resident doctors, when available at hospitals, are often used to lighten the load of the patient's doctor to the degree that makes the patient pause before he replies to the question: "Who is your doctor?"

The virtual elimination of competition in some districts by group practice may well prove the undoing of the profession's battle against a national health service.

The main ideological argument against any form of national health service is the violation of the doctor-patient relationship. This relation means briefly: (i) the right and availability of a doctor to treat his own patients to the best of his ability; (ii) the absence of any third party (governmental) coming between this relationship.

The first part of this principle is gradually being undermined as outlined above. Enthusiasm of the patient in support of this principle is gradually waning. He realizes that it is ceasing to exist. It is degenerating from substance to mere sentiment, kept alive by active propaganda.

The second principle is largely now overlooked. Doctors readily accept the agency of a third party, for example, insurance companies, the Repatriation Commission and friendly societies, as an intermediary in their payment; provided, of course, the fee for service is sufficiently attractive.

The idea of a group practice is undoubtedly excellent, but when carried out to the extent of virtually eliminating competition, it suffers the same weaknesses as do all monopolies whether under private or government control.

Yours, etc.,

December 13, 1951. "FROM THE SIDELINES".

Obituary.

JOHN CADELL WINDEYER.

WE are indebted to Dr. Grace Cuthbert for the following account of the career of the late Professor John Cadell Windeyer.

Professor John Cadell Windeyer, first professor of obstetrics in the University of Sydney, was a man much beloved by his fellow practitioners, by his students and by the public. Long before he was appointed to the chair of obstetrics he was for years the doctors' obstetrician—a sign of confidence than which there is no higher.

Windeyer's long and honourable association with the University of Sydney began in the nineties, when as a boy fresh from The King's School, Parramatta, he entered the medical school; it ended with his death when he was Professor Emeritus. In 1899 he graduated Bachelor of Medicine and Master of Surgery, and in 1901 he went to England and acquired the diplomas of M.R.C.S. (England) and L.R.C.P. (London). It was in later years, in 1926, when he published his observations and his teaching on the use of abdominal palpation in obstetrics, that the university accepted his contribution as a thesis for the degree of Doctor of Medicine. From 1914 to 1920 Windeyer was examiner in gynæcology to the University of Sydney; he was lecturer in obstetrics from 1920 to 1925, and he became professor of obstetrics on the establishment of the chair in 1925. He occupied the chair until 1941 when the university honoured him by making him Professor Emeritus. To undergraduate students he represented all that was best in practice and precept, and he gave them a sense of profound responsibility in the conduct of their practice of midwifery and a keen awareness of the importance of their decisions in gynæcology. No student ever failed to find a sympathetic, wise and understanding friend if he turned to Windeyer for

advice or encouragement. During his years of association with the University of Sydney Windeyer was Dean of the Faculty of Medicine and Fellow of the Senate in 1930, 1931 and 1939. He became widely known as a senator of wisdom and sound judgement. He was a member of the Cancer Research Committee of the university. He managed from time to time to serve other universities, and acted as examiner for the degree of Doctor of Medicine at the Universities of Melbourne, Adelaide and Otago; he was also external examiner in obstetrics and gynæcology in the University of Adelaide.

The Royal Hospital for Women at Paddington, New South Wales, was served by Windeyer throughout the whole of his professional life. He became honorary assistant surgeon in 1904 and held the office until 1919 when he was appointed honorary surgeon. He was for some years chairman of the honorary medical staff of the hospital. In 1941 Windeyer became honorary consulting obstetrician and gynæcologist to the Royal Society for the Welfare of Mothers and Babies; he was honorary consulting physician from 1923 until the time of his death. It is not generally known that Windeyer was responsible for the creation of the office of honorary pædiatrician to the Royal Hospital for Women. This is believed to have been the first occasion on which such an appointment was made in Australia. The appointee was Dr. Margaret Harper. In 1912 Windeyer established at the Royal Hospital for Women the first antenatal clinic in Australia; this is believed to have been the second antenatal clinic in the English-speaking world. It was to his guidance and support that the practice of physiotherapy in pregnancy and the puerperium owes its Australia-wide recognition as an integral part of the practice of obstetrics.

Windeyer served for some years on the board of management of the Royal Prince Alfred Hospital; he was an

adviser to Prince Henry Hospital, a trustee of the King George V Memorial Fund for Maternal and Infant Welfare, and chairman of the Australian Reference Committee of the Royal College of Obstetricians and Gynæcologists until 1941. Windeyer was a member of the board of examiners of the Australasian Trained Nurses Association from 1908 to 1925, and a member of the Nurses Registration Board from its inception in 1925 until 1941. He served as chairman of the Medical Appointments Advisory Committee to the Hospitals Commission of New South Wales, and as a member of the New South Wales Post-Graduate Committee in Medicine from 1935 to 1941. He was during the period 1937 to 1941 a member of the Obstetrical Research Committee appointed by the National Health and Medical Research Council, and he was also a member of the special Medical Committee Investigating Maternal Mortality from its inception in 1939 until his death.

Windeyer was a faithful member of the British Medical Association, though he did not seek a seat on the Council of his Branch. He acted as vice-president to the Section of Obstetrics and Gynæcology during the Second Session of the Australasian Medical Congress (British Medical Association), held at Dunedin in 1927. He was a foundation Fellow of the Royal Australasian College of Surgeons and of the Royal College of Obstetricians and Gynæcologists, London.

Those who were not privileged to see Windeyer at work in his lovely garden or sitting by his fireside in his happy home surroundings will not have a complete picture of this grand man—an ardent churchman, a wonderful husband and father, a fine teacher, and a sound, wise and kind obstetrician. He is survived by his wife and three children, two of whom have entered the profession of medicine.

NIGEL LOVAT PRICHARD.

We regret to announce the death of Dr. Nigel Lovat Prichard, which occurred on December 31, 1951, at Malvern, Victoria.

Post-Graduate Work.

THE MELBOURNE PERMANENT POST-GRADUATE COMMITTEE.

PROGRAMME FOR FEBRUARY, 1952.

Classes at the University of Melbourne for Candidates for Higher Degrees and Diplomas.

CLASSES for candidates for Part I of the M.D., M.S., D.O., D.L.O., D.G.O., D.D.R., D.T.R., D.A., D.P.M. and pathology section of Part I of the M.S. and diplomas will be held at the University of Melbourne at the following times:

Monday and Wednesday afternoons: 1.45 p.m., pathology lectures in the pathology department for Part I of M.D. and Part II of M.S. and diplomas, followed by pathology practical demonstrations in the pathology laboratory (commencing March 17); 2 p.m., anatomy lectures in the anatomy department for Part I of the M.S., D.D.R., D.O., D.L.O., D.G.O., D.T.R., D.A. and D.P.M. (commencing February 11); 3.45 p.m., physiology lectures in the physiology department for Part I of the M.D., M.S., D.A., D.G.O., D.O., D.L.O., D.P.M. and D.D.R. (commencing March 3).

Thursdays: 4.30 p.m., physics lectures in the X-ray and radium laboratory for Part I of the D.D.R. and D.T.R. (commencing March 6).

The first half of the pathology course is suitable for candidates for Part II of various diplomas and the M.S., and will be supplemented where required by special lectures and demonstrations suitable for the degree or diploma concerned.

Fees will be £31 10s. (total) for courses for Part I of a degree or diploma and £15 15s. for each subject taken separately.

Psychiatry and Neuropathology for D.P.M. Part II.

The Post-Graduate Committee, in consultation with the Australasian Association of Psychiatrists, will conduct a

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED DECEMBER 15, 1951.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.[2]	Australian Capital Territory.	Australia.[2]
Acute Rheumatism	..	..	..	..	..	..	..	..	..
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	..	..	1	..	..	..	..	..	1
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	..	1	..	..	..	..	..	..	1
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	..	..	23(18)	..	1	3(1)	..	..	27
Diphtheria	2(1)	3(2)	3(2)	..	2(2)	..	..	..	10
Dysentery (Bacillary)	..	1(1)	2(2)	..	..	..	..	..	3
Encephalitis	..	1	..	..	..	..	..	..	1
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	..	..	..	..
Infective Hepatitis	..	..	..	..	15(10)	..	..	..	15
Lead Poisoning	..	..	1	..	..	..	..	..	1
Leprosy	..	..	..	..	12	..	..	..	12
Leptospirosis	..	..	..	..	..	..	..	..	..
Malaria	..	..	..	..	..	..	..	..	..
Meningococcal Infection	2	..	..	..	1	..	..	..	3
Ophthalmia	..	..	..	..	..	..	..	..	..
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	7(1)	3(1)	14(11)	29(17)	1	..	..	..	54
Puerperal Fever	..	..	..	..	..	..	..	..	..
Rubella	..	11(10)	..	..	6(5)	..	..	2	19
Salmonella Infection	..	..	..	..	..	..	..	..	..
Scarlet Fever	18(14)	18(11)	3(1)	1(1)	2(2)	8(1)	..	..	50
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	2(1)	..	..	..	2
Trachoma	..	..	..	..	..	..	..	..	..
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	23(16)	31(26)	8(3)	1(1)	12(6)	5(3)	..	..	80
Typhoid Fever	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	1(1)	..	..	..	1
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.
[2] Figures not available.
[3] Figures incomplete owing to absence of returns from the Northern Territory.

course in psychiatry and neuropathology for D.P.M. Part II candidates in February. This will commence on Monday, February 4, and continue for four weeks with the following daily programme: 10 a.m., visits to different hospitals; 2.15 p.m. and 3.45 p.m., lectures; 8 p.m., visits to different hospitals. The full syllabus will be sent to those interested on application to the committee. The fee will be £26 5s., or on a pro-rata basis.

Note: Psychology lectures for D.P.M. Part I are arranged by the psychology department of the University of Melbourne and not by the Post-Graduate Committee.

Courses Suitable for Candidates for M.D. Part II and M.R.A.C.P.

The following courses suitable for candidates for M.D. Part II and M.R.A.C.P. have been arranged: (*a*) A course in neurology, under the direction of Dr. Leonard B. Cox, commences on February 5 at 11 a.m. The fee will be £3 3s. or 10s. 6d. per demonstration. (*b*) A course in hæmatology, under the direction of Dr. John Bolton, commences on February 26 at 2 p.m. The fee will be £3 3s. or 10s. 6d. per demonstration.

Country Courses.

Lecture at Ballarat.

A lecture will be given at Ballarat on February 7 at 8 p.m. by Dr. A. E. Coates on the subject "Peripheral Vascular Diseases". Enrolments should be made with Dr. J. P. L. Griffiths, Secretary of the Ballarat Subdivision of the British Medical Association, 29 Errard Street North, Ballarat. Telephone: 350. The fee will be 10s. 6d.

Lecture at Flinders Naval Depot.

By arrangement with the Royal Australian Navy, a lecture will be given at Flinders Naval Depot on February 13 at 2.30 p.m.

Week-End Course at Mooroopna.

A week-end post-graduate course will be held at Mooroopna on March 1 and 2. The following lectures will be given: Dr. J. McB. White, "Treatment of Common Diseases of the Eye"; Dr. W. J. Rawlings, "Indications for Operative Interference during Labour"; Dr. C. J. O. Brown, "Selection of Cases of Cardio-Thoracic Surgery"; Dr. W. E. King, "Thyreotoxicosis: Its Diagnosis and Management". The fee will be £2 2s. or 10s. 6d. per demonstration.

Enrolments.

Enrolments for the courses in the metropolitan area should be made with the Post-Graduate Committee not later than two weeks before the commencement of the course.

Medical Appointments.

Dr. E. Cunningham Dax has been appointed a member and chairman of the Mental Hygiene Authority of the Department of Health, Victoria, pursuant to the provisions of the *Mental Hygiene Authority Act*, 1950.

Dr. T. M. Hendry has been appointed a public vaccinator for the Shire of Alexandra, Victoria.

Dr. B. Jarvis has been appointed a public vaccinator for the Shire of Pyalong, Victoria.

Australian Medical Board Proceedings.

TASMANIA.

THE undermentioned have been registered, pursuant to the provisions of *The Medical Act*, 1918, of Tasmania, as duly qualified medical practitioners:

Pate, John Robert, M.B., Ch.B., 1915 (Univ. Glasgow), 178 Macquarie Street, Hobart.

Margulies, Solomon Max, M.D., 1910 (Univ. Konigsburg), Lachlan Park Hospital.

Walkinshaw, R., M.B., Ch.M., 1922 (Univ. Glasgow), D.D.M.S., 1932 (London), F.R.C.S., 1937 (Edinburgh), 176 Macquarie Street, Hobart.

Ball, Karl George, M.B., B.S., 1946 (Univ. Adelaide), Royal Hobart Hospital.

Scott, Walter Henry Collins, M.B., B.S., 1950 (Univ. Melbourne), Royal Hobart Hospital.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Listwan, Ignacy Andrew, provisional registration in accordance with *Medical Practitioners Act*, 1938-1951, Section 17 (1) (*c*), 53 Liverpool Street, Rose Bay.

Frant, Henryk, provisional registration in accordance with *Medical Practitioners Act*, 1938-1951, Section 17 (1) (*c*), 78 Newcastle Avenue, Rose Bay.

Brauner, Adolf, provisional registration in accordance with *Medical Practitioners Act*, 1938-1951, Section 17 (1) (*c*), 124 Francis Street, Bondi.

Diary for the Month.

JAN. 22.—New South Wales Branch, B.M.A.: Medical Politics Committee.

JAN. 25.—Queensland Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federal Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178 North Terrace, Adelaide): All Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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